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HIVOS

The Paddy Chain: Building Constructive Alternatives

Editors
G V Ramanjaneyulu
Bishwadeep Ghose
Willy Douma
Shobha Raghuram

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Theme: Raised Nursery Beds.
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2006

DEDICATION

In late 2005, Hivos lost a dear friend. **Dr. Alexander Daniel** was the founding member of the Institute of Integrated Rural Development (IIRD), a Hivos partner organisation.

Dr. Daniel spent the best years of his life working tirelessly for the resource poor farmers of the Marathwada region in Maharashtra. His quest for alternatives to the more conventional forms agriculture are legendary. He was an active and enthusiastic member of the Core Committee for the workshop on 'Paddy Chain: Building Constructive Alternatives'.

His deep commitment to the cause, an urgent sense of purpose and his genial demeanor had provided him the great ability to draw diverse people from the voluntary sector and Members of Parliament to rally around the common cause that was so close to his heart-i.e. to look at agriculture from the perspective of a small and marginal farmer.

The attention that he wished to draw to these alternatives has inspired many and will undoubtedly be furthered by IIRD and many others. Dr.Daniel was engaged in developing the 'Framework for Alternative Standards and Certification' for the Government of India, literally till the very last moments of his life!

This report is sincerely dedicated by the team of Hivos and the Editors to Dr. Daniel.

Group Photograph of Participants at The Paddy Chain: Building Constructive Alternatives Workshop, July 6th & 7th, 2005, Hyderabad.

Photo Credit:

Theme: 30 days After Transplanting. Rice fields with SRI Paddy.

Courtesy: Centre for Sustainable Agriculture (CSA), Hyderabad

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TECHNICAL REPORT SERIES

This Technical Report Series is part of the Hivos-India Regional Office's effort to participate actively in the debate and dialogue in India on issues of human development and emancipatory interests. This series consists of monographs, working papers and Hivos conference proceedings. The publications reflect policy concerns of Hivos regarding development issues in India and address the problems faced by the marginalized in developing countries, such as in the areas of governance, environment, gender, sustainable production, culture, the politics of development, economic activities, human rights and information and communication technology.

Series Editor: Shobha Raghuram

FOREWORD

K.S. Krishnaswamy

It has long been evident that poverty alleviation in India depends vitally on generating employment at a faster rate than output, which also needs to be raised to higher levels. Equally clearly employment generation is more urgent in the rural sector, which contains a majority of the poor. However, both the plan approach of earlier years and the reforms policy of recent times have focused largely on industrial and infra-structure development, unrelated to agriculture. While this has undoubtedly raised the growth rate of GDP, and may have reduced the proportion of the poor, there are even now upwards of 250 million who are abjectly poor, mostly, in rural areas. Notwithstanding rozgar yojanas of various kinds public distribution systems, support prices and so forth, much of rural labour suffers from low incomes, malnutrition, illiteracy, endemic diseases and so forth, finding solace only in their karma!

What explains this signal failure, in a country which the rest of the world sees as a global giant in the making? As always and everywhere, there is no single or simple explanation. But this much is certain: in our conditions, any development strategy which does not provide specifically for a significant advance in agriculture and rural industries is more likely to worsen rather than improve the poverty situation. Further, increased employment in these sectors has also to provide for a sizeable rise in productivity; this will require surplus labour on land to be shifted, mainly to non-farm activities within the countryside. This is a formidable proposition, requiring additional resource use as new technologies which are labour-using;

This is not however, merely a matter of re-allocation of productive resources or of technological innovations in agriculture and rural industries. Essential as they are for increased production, their benefits easily by-pass the poor if purposeful changes in political and social institutions, system of economic organization and ownership patterns do not occur. There have indubitably been efforts to modify all these since Independence; but these have been marginal and the rural social structure continues to be dominated by the upper castes. They have continued to own land and other capital resource, control trade and transport, run political parties and dominate society as they have always done. Panchayat institutions, cooperative credit and marketing societies, water resources, bureaucratic access and contracts, educational facilities etc., continue to be monopolized by the upper castes and property owners. Unless these environmental conditions for the poor are radically altered, output increases could exacerbate rather than reduce economic and social inequalities in rural areas.

All this is, indeed, common knowledge and the marvel is that everything aiming at remedying this situation is distorted and rendered ineffective by the dominant political and economic

elements in rural society. Neither poverty nor the attendant evils of malnourishment, illiteracy gender discrimination and so forth can be effectively resolved without active people participation in governance and a transformation of social mores and attitudes Local governments in the shape of panchayat institutions are now a constitution requirement. But without adequate authority and resources, panchayats have become a travesty, reduced to mere gents of State government. They have had no impact on rural institutions or the livelihood patterns of the populace. Similarly, despite grand announcements about increased allocation to education, public health and other social amnesties, the ground situation all over the country continues to be deplorable. Increases in GDP have tended to widen wealth and income inequalities in both rural and urban areas; and the composition of domestic production is tilted solidly towards meeting the needs of the rich and of foreign markets. A consequence of all this is perpetuation of all the traditional inequalities and deprivations especially in rural areas. What is singularly distressing is that with increased mobility of people and ideas, there is no lack of knowledge which can be utilized with great benefit to the common people – not merely in terms of raising their productivity and income levels but in making their lives more livable and meaningful.

This comes out impressively in the deliberations of the paddy chain workshop hosted by CSA, CWS and Hivos in July 2005 in Hyderabad. Though it was concerned with links in the chain of rice from the primary producer to the final consumer, the "constructive alternatives" which came up during the discussion are valid for other crops also. Importantly, the workshop enabled people with different persuasions and experiences to evolve a range of operational possibilities which seem prima facie beneficial to all concerned. As. Prof. Padmini Swaminathan had said so aptly in her introduction below, the deliberations provide both a comprehensive critique of current economic policies and the "viability of alternative structures and ways-of-doing" with advantage to farmers as well for the country's food security, rural environment, water conservation and so forth. Pursuing these alternatives will not be easy when academics and policy-makers alike are obsessed with globalization and adoptions of alien techniques, regardless of their impact on employment and human welfare. Besides the expertise and experiences which the participants brought to the task of enhancing the capability of all types of farmers, it was their concern to ensure that the benefits accrued in a significant measure to the rural community and, in a larger sense, to the health and progress of the nation as a whole which was impressive. One fondly hopes these conclusions of the report will have a multiplier effect on all of agriculture and related activities quickly and in a sustainable fashion.

Dr. K.S. Krishnaswamy
Former Deputy Governor, Reserve Bank of India
C-601, Adarsh Gardens, 47th Cross, Jayanagar 8th Block
Bangalore 560 011, Ph. No. 26990407
Email: drkswamy@vsnl.com

PREFACE

THE PADDY CHAIN: BUILDING CONSTRUCTIVE ALTERNATIVES

G. V. Ramanjaneyulu, Bishwadeep Ghose,
Willy Douma, Shobha Raghuram

Introduction

Many of Hivos' partners are working in the area of sustainable agriculture, organic farming towards the building of long-term food securities within communities, and environmental justice. The wider environment of social injustice where issues of rural livelihoods and food security has been a source of growing concern also finds mention. It is a great pleasure for us that so many members of the public have accepted our joint invitation to work with us on these issues and contribute to this volume. The Hivos Regional Office is committed to working with people living in poverty and building organizations of affected people themselves. The Centre for World Solidarity (CWS) and the Centre for Sustainable Agriculture (CSA) are two such organizations which have been consistently working on these issues. It is an irony of the times we live in that the very people who are growing food are the ones facing extreme pauperisation. Not all Hivos' partners are working along the paddy chain but many of them have a strong background in livelihoods, in countering poverty effects, in lobby and advocacy and in building organizations that protect the rights of small farming communities to grow cereals, and to market them at the local level. While the workshop served as a platform that would bring together a range of experienced and eminent people from organic farmers' organizations, the field of academia/research, practitioners, policy makers for an animated exchange on various issues, we at Hivos were keen on getting informed by the debate on whether interventions along the chain would be useful in terms of addressing the issues of food and livelihood security for the marginalized within the farming communities and also those outside it. The central focus of our work as a social development institute has been on supporting organizations committed to eradicating poverty and all its attendant forms of rights-based losses. Hivos partners are present in 30 countries totaling almost 800 civil society organizations composed of social movements, cooperatives, community based organizations, and membership organizations. We are part of Alliance 2015 which enjoys the membership of several European donors committed to poverty eradication.

I. Rice Chain in the Context of the Hivos Sustainable Economic Development Policy

The main purpose of the Sustainable Economic Development policy of Hivos is to improve the economic position of poor and marginalised people in a sustainable way. Two important goals are to -

- Increase and improve access to resources
- Improve the quality of production processes

Research Studies on Rice/Paddy initiated by Hivos in Indonesia, Sri Lanka, India and The Netherlands looked at several aspects related to ecological/environmental, economic, institutional, social/gender dimensions of rice production, trade and consumption. The sharing of findings from these studies was done in an International workshop held in Sri Lanka in March 2004, where participants from Malaysia, Thailand and Philippines also participated apart from the countries where the studies were carried out. From the sharing of experiences it emerged that organic agriculture is indeed a better option for the small producer as it reduces the cost of production, enriches the soil, is environmentally friendly (reduces costs on healthcare) and there are possibilities for higher income if linked with the growing demand for organic produce. However very few examples emerged which actually indicated the engagement with a greater part of the food/value chain. This perhaps indicates the complexities and the difficulties in the processes as one moves along the chain. Given the political, socio-cultural, economic and agro-ecological diversities of India, it was felt that a much deeper understanding of the processes that affect the lives and the livelihoods of the paddy producers needs to be acquired for any meaningful interventions to be designed.

One other result of the regional workshop stood out: the need for farmers and their organisations to improve their marketing skills, insights and alongside these improve management systems. Hivos found a Thai organisation with more advanced insights to provide training to Hivos partners.

II. Contextualising Interventions

Global Poverty and Hunger

Extreme poverty remains a daily reality for more than 1.3 billion people who subsist on less than $1 a day. Hunger and malnutrition are almost equally pervasive. 800 million people have too little to eat, 2 billion are malnourished. Southern Asia has almost 53% of the world's children who are hungry and under weight. It is tragic to note that most of the world's hungry live in rural areas, depending on the consumption and sale of natural products for both their income and their food. Hunger tends to be concentrated among the landless and the poor farmers. South Asia is home to half the developing world's poor. In Asia with decreasing new land, scarcity of water and increase in local demands for rice and various cereals, the challenges are many. Food deficits represent humanity's deficit at coping with divides that are dehumanizing. **This report is being compiled at a time when hunger, food security, protracted crisis in the agrarian economy are all more than just realities which are apart from us. The tragedies of**

farmers ending their lives must be remembered as the background in which our development policies regarding state and private responsibilities are discussed. In this meeting a complex array of insights will hopefully trace the threads of connectivity in a world getting more and more fragmented. The technical is located in the human crisis for solving the problems of small producers just as the social is informed in the ecological debate on rice production. The entire chain from pre production to processing, storing, marketing, and consumption needs to be carefully understood in the local, national, and international contexts – highly differential as these are.

India and the Reform Policies

The central focus of planning in independent India was to ensure a society marked by self-reliance and political independence with social welfare and poverty eradication having the highest priority. However the fall outs of liberalization policies include further polarization and deep social fissures.

The opening up of the economy has not created opportunities for gainful employment growth. Several states are showing stark and dismal realities. Growing privatization has not necessarily proved the efficacy of the reforms. Fundamental changes in the production structure are reducing small producers to immiserisation. We need a long-term view that accommodates with sufficient investments for linkages with universities, R&D laboratories, technology improvements, increase in costs in budgetary bases for social programmes. The attendant problems of caste, class, deteriorating situation in the position of women (poor wages, occupational health hazards, effects of pesticide), the lack of land reforms and the presence of persistent poverty and unemployment determine the nature and quality of progress.

Many years ago at one of our meetings on the Structural Adjustment Policies (SAP) Dr. K.S. Krishnaswamy said - "In pursuing SAP we have lost sight of the costs of transitions in terms of agricultural unemployment and other sacrifices to be made by marginal and small farmers". Do we need increased state presence in agriculture and in tackling environmental and agro-market problems and how can that be cast not in a further centralization mode but in a promotional and proactive role? Can market economy led growth promote employment security and demonstrate that growth and justice are not mutually exclusive? A severely deficient infrastructure, low levels of education and health, agrarian poverty, structural dualism, persistent technology lags in industry, weak home markets demand that we address the meeting of basic needs, and build systems which will guarantee effective and equitable resource management and distribution.

Global agreements and the pressure to alter crop choices and make changes in consumption patterns, TRIPS and the vulnerability of farmers becoming dependent on an uncertain market for the purchase of seeds are realities that concern many partners. The thrust of the "internalization" of the Indian production structure especially in agriculture may enhance the already unequal distribution of incomes and the presence of hunger among large sections of the population. What is the role of rural banks, and cooperative credit institutions? Let us not forget that OECD countries over the last 40 years or so are subsidizing their agribusiness with an average of US $350 billion a year, leading to an overpowering global infrastructure in production, marketing, transport and finance. Prof. Utsa Patnaik's paper reflects some of these hard structural issues that have contributed to the immiserisation of the rural small producers.

III. Background: Reworking Rice Supply Chain

Asia's rice based livelihood systems are the contiguous and largest of all food producing systems of the world. Asian rice lands produce 92% and consume 90% of the world's rice and provide food and livelihood base to slightly more than half of the total world population (little more than 3 billion). The total rice harvested area of 135 million hectares is mostly scattered among small and resource poor farmers and provides employment to a large number of rural landless. These rice lands also support more than 50% of the world's hungry.

Rice is a preferred staple food for more than one half of the world's population. Rice is rich in genetic diversity, with thousands of varieties grown throughout the world. In its natural unmilled state, rice comes in many different colours, including brown, red, purple and even black. These colourful rice varieties are often prized for their health properties. Unmilled rice has a higher nutrient content than milled or polished white rice.

The rice supply chain provides livelihood to millions of people across the developing world. (Rice is the staple food for 65% of the total population in India). The global changes in trade and technology development have profoundly changed the situation today. The small and marginal farmers at one end of the chain are not only economically disadvantaged but often politically powerless, and when their interests are pitted against those of more powerful actors at the other end, they often lose. Therefore, understanding the institutional and political economy underpinnings of the organizational structure of a particular commodity or a sector is crucial for designing a set of measures that enables the poor to take fuller advantage of greater access to markets.

Hundreds of millions of people spend more than half their incomes on rice to feed their families. At the same time, rice farming is a major source of employment, especially for the poor, and about four-fifths of the world's rice production is grown by small-scale farmers in

low income, developing countries. All over the world, rural women have traditionally played, and continue to play, an important role in both rice production and rice post-harvest activities. In many areas, tasks related to rice planning, weeding, harvesting and processing are the domain of women.

Numerous actors take part in the value chain that links rice farmers to final consumers: farmers, local traders, millers, wholesalers, retailers, and exporters in addition to the state owned Food Corporation and Public Distribution System. Other participants include transporters, seed companies, agrochemical companies, agricultural equipment companies, irrigation companies, banks, inspection agencies, commerce and tax departments, agricultural departments, farm organizations, miller organizations, research organizations, extension organization, policymakers, and consumer organizations. The relations among different participants in a sector determine the means by which benefits are distributed within the chain and influence the way different actors try to improve their positions within the chain. From the constraints identified, it is possible to derive policy recommendations to raise the returns of poorer households within the sector.

III.1 Pre-Production

With the green revolution, the dependency of farmers on external inputs has increased. This dependency has increased the costs of cultivation and also created several ecological problems. The productivity oriented extension systems have encouraged excessive monoculture of the crop and varieties. India which once had 30,000 varieties of rice; today gets 75% of its rice production from just 10 varieties (Return to Good Earth, 1990). Availability of good quality seeds in sufficient quantities locally is a major requirement. Retaining farmers' control over the seed is a major challenge with new legislations coming in, favoring corporate control over the seed. Similarly the various GM rice varieties in the pipeline for approval bring in the issues of patents and monopoly control over the seed by the MNCs in addition to posing new hazards. The new GM varieties of rice biofortified with beta carotene, iron etc could add to the health problems rather solving them. In spite of the reports across the world on the GM contamination in rice, Indian government/research establishments are aggressively promoting the GM path. In addition the IPR implications of such research are much less understood.

Many of the successful models established by various organizations on local resource based, organic production systems are remaining as isolated cases. The present support systems in the form of subsidies, credit or insurance favor only external input (chemicals, hybrids etc) based production systems. Government subsidies ultimately reach fertilizer and pesticide industries and do not support farmers to effectively make use of their local resources. This calls for a

complete recasting of the way government and financial institutions supports the provision of inputs.

The national and state governments recently initiated few programs on the capacity building on organic farming. All these initiatives are welcome, but without a paradigm shift in the conceptual understanding replacing the chemical inputs with bio-inputs may not really solve the problems of small producers and sustainbility. All these are aimed at promoting (large scale) certified organic production to fetch premium price in international markets.

III.2 Production

Rice is grown under a wide variety of conditions in India. Rice is the only cereal that can stand water submergence, and this helps to explain the long and diversified linkages between rice and water. For hundreds of years, natural selection pressures such as drought, submergence, flooding, and nutrient and biotic stresses led to a great diversity in rice ecosystems. Historically, rice cultivation has been a collective enterprise. The investment and shaping of the landscape that are needed for the ponding system (terraces) require collective organization within the community. Water management also relies on collective interest: crop and water calendars must be organized for large blocks of fields in order to manage water efficiently and organize such work as land preparation, transplantation and drying for harvesting. With construction of dams and after the Green Revolution, rice became predominantly a canal-irrigated crop. Traditional Tank systems were totally neglected. Gradually farmers even in rainfed areas started cultivating rice under tube well irrigation. This has led to exhaustion of the ground water and several cascading ecological and economic problems. An acre of rice production in ponding conditions requires about 6 million litres of water which translates to 5000 litres of water for each kilogram of rice production. This shows the burden on the scarce natural resources. Growing rice in ponding conditions also lead to problems like salinity, methane emission etc.

An innovative system of growing rice with less water was initiated in Madagascar named System of Rice Intensification (SRI). This system which is based on sound ecological and agronomic principles not only reduces water utilization by about 40% but reduces the seed quantity required to 2 kg/acre and increases the yields by at least 20%. The experiences from Andhra Pradesh, Tamil Nadu and Jharkand show the advantages of the system. SRI for the first time after green revolution has brought in several innovations from farmers into mainstream agriculture. SRI also clearly demonstrates the biological potential of soil to support the plant given suitable conditions. SRI is best suited for the organic production systems. While SRI is suitable for certain conditions, there are various other such successful initiatives which need to be understood and promoted.

Though paddy is a self pollinated crop and has wide variation, research scientists focused on developing hybrids - as a high-end technology by public sector research and to retain control over the seed by the private companies forcing the farmers to buy seed every year. This would inerase the cost of seed at least by three times.

III.3 Post-Production

Most resource-poor farmers have very limited capacity for retaining their produce after the harvest until they get good prices. Prices are generally low immediately after the harvest and the access of the small producers to infrastructure like storage and processing facilities is quite limited. In addition, lack of transparency and lack of awareness regarding the procurement by the Govt. agencies/mill owners add to the woes of the farmers. Also there are several moves to withdraw the minimum support prices and market intervention operations.

Procured rice is distributed through the Public Distribution System in the country. Similarly this rice is also used in the Food for Work program and national food assurance programs. While all these are aimed at providing food to the poor, such initiatives lead to 'sanskritisation' of food habits which also lead to changes in cropping patterns. The millets were completely left out of the support structures, and the growers suffer due to lack of demand and effective markets. Some innovative ideas like Rice Credit Line, which advances food to labor in lean periods and gets in return their labor, have been tried in states like AP.

Growing awareness about the health hazards of the chemicals used in production processes has increased the demand for organic foods. Several organizations have stepped into the organic production systems to capture the premier (but now also increasingly those in Asia's bigger cities) western markets. But it has limitations for small scale producers like high price of certification, inaccessible distant markets and difficulties to meet the strict international standards for organic production in a local/Indian context etc. National organizations like APEDA (Agriculture Produce Export Development Agency) have programs to subsidize the certification but focus on international markets. Local markets are only starting to develop.

IV. Contextualizing the Rice Chain

Today, the major threat to rice is mainly in the form of monopolization and monoculture that corporations are seeking to establish through the instruments of genetic engineering and IPRs in agriculture. Thousands of varieties of rice which were till now freely available are fast becoming

the private property and intellectual property of a few big companies. Although 90% of rice and rice varieties were developed and produced by the Asians, the West and their companies own it now. For example, Switzerland hardly grows any rice; its leading agribusiness company, SYNGENTA, has already claimed ownership of rice. In other words, Syngenta now claims to have monopoly over the poor people's crop and diet - the rice. It has acquired patents over the entire rice genome map. The same company made an unsuccessful attempt to acquire control over the rich collection of Dr. Richaria in Madhya Pradesh which are in custody of Indira Gandhi Krishi Viswavidyalaya (IGKVV).

Throughout Asia, the trend in public and private rice research is to promote new rice varieties that will bring greater control to industry yet more harm to farmers, our health and the environment. If technological tools to control the seed were not enough, corporations are now securing the legal tools. The WTO Agreement on Trade Related Aspects of Intellectual Property Rights (TRIPS) gives global corporations the 'right' to claim monopoly ownership over rice through patents and similar mechanisms. Companies have already started to claim intellectual property rights (IPR) on rice. IPRs on rice give companies immoral and unethical monopoly control and force farmers to pay for the use of genetic resources and knowledge that originated from them, as in the infamous case of the basmati rice patent. While this is unacceptable, governments across Asia are being pressured to recognise patents and plant breeders' rights so that Corporations can control the whole agricultural sector, starting with the seed. The loss of traditional knowledges owned by farmers is a story that needs to be reversed.

At this juncture the Public-Private partnerships raise several serious concerns. For example, the hybrid rice program of ICAR at Directorate of Rice Research is supported by the Mahyco Research Foundation. Similarly the National Rice Biotechnology Network is working in close partnership with the industry. The new National Biotechnology Development Strategy paves way to strengthen such partnerships some more, resulting in the ultimate loss to farmers. The latest steps of govt. of India like the World Bank assisted National Agriculture Innovation Project (NAIP) and US-Indo Knowledge Initiative could be the last straw on the camel's back.

Opening up of the Indian retail sector for the Foreign Direct Investments would change the way the food markets operate in the country. The entry of Giant Multinational Corporations will change the existing supply chain systems. Indeed, the food secure nation has once again opened up its borders for food imports. The cheap imports have seriously distorted the domestic price situation making the market process unremunerative for the farmers.

Amendments to the Marketing Acts and the new Food Act will allow industry to take complete over the production and marketing of the agriculture produce specially the food.

These technological and policy changes are completely ignoring the cultural links paddy has with the lives of the people and the knowledge traditionally with farmers of the region. The new initiatives are making food a commodity to be marketed. This also affects the food sovereignty. Today food security is seen only as the quantity of buffer stocks. Specially the changes in trade policies with the Agreement on Agriculture poses new challenges which require new perspectives to understand the issues and the changes to be made on the ground, and changes to be brought about at the macro-level.

In this context this report attempts to discuss the various dimensions of rice which are intricately connected to the livelihoods of rice growers and workers and their natural resources. There are also several successful interventions and alternative experiences which have tried to deal with one or the other aspects mentioned above. With a deeper understanding of the issues involved, the analysis would provide a way forward for planning meaningful interventions in our efforts to Save Rice, Save Life.

V. Our Contributors

The workshop, The Paddy Chain: Building Constructive Alternatives (July 6th-7th, 2005, Hyderabad) that was hosted by CWS/CSA included farmers' groups/NGO representatives, various service providers, certifying agencies, processors, research institution members, government bodies, academics, and donors. The contributions from them reflect the diversity of experience and approaches. The issues span sustainable agriculture, poverty, food and livelihood security, and rice and its larger relevance. The report is presented to the reader under different thematic heads so that the focus is retained through the report. These include: Paddy Production Systems – Emerging Issues; Policy and Public Support for Organic Paddy; Marketing, Processing and Value Addition of Rice; Standards, Certification and Internal Control Systems and Additional Papers. Each thematic section is introduced by a synthesis report of the contributions and the discussions that took place in the workshop. Contributors were requested to focus on the key achievements, the challenges and opportunities, highlight how interventions have improved the livelihood and food security of small paddy producers, describe the impact of interventions on Environmental Quality, and the impact of interventions on positions of women. We have tried as editors to capture the wealth of experiences available in different parts of the country and in different institutions.

We thank all our distinguished contributors not only for their writings but also for their participation in the consultation. Their presentations range from exploratory observations to assuming lobby and advocacy positions. We also take this opportunity to thank the core committee members Dr. Afsar Jafri and Dr. Vinod Bhatt, Navdanya; Dr. A.V. Balasubramanian, CIKS; Prof. Padmini Swaminathan, MIDS; Ms. S. Usha, Thanal; Dr. Ramanjaneyulu, CSA; Dr. Rukmini Rao, CWS; Dr. Alexander Daniel, IIRD; Mr. Jagadish Pradhan, SVA; Mr. Muralidharan, Hivos who helped Hivos and CSA to charter a consultative course on the various issues surrounding the paddy chain. Finally we thank Dr. K.S. Krishnaswamy, Prof. Padmini Swaminathan, and Prof. Utsa Patnaik for joining us during this extraordinary process. Their contributions to this volume speak for themselves. CWS took an active interest in hosting the consultation. We are grateful to Shri. M.V. Shastri and the CWS team for the support provided.

As editors our special thanks to Ms. Kavitha Kuruganti and Mr. K. Hanumantha Reddy who assisted us considerably with rapporteuring and with distilling the text from the conference proceedings. Last but not least, we express our acknowledgment of the support given to the editorial team by Ms. Hemalatha of Hivos. CSA and CWS may undertake translation of some of these texts to regional languages for the use of farmers' associations. CWS took an active interest in hosting the consultation.

Last, but not the least, we have included for readers the draft of the Jai Kisan; Revised National Policy for Farmers which is presently being debated. This is the revised version of the first draft submitted on April 13th, 2006. Many issues raised here in this report are echoed in this draft policy document.

Conclusion

All along the chain we may see the quest for growth with distributive justice, and a history where the tiller of the soil is not made to sacrifice all claims to the land and to what he grows. The rural reality demonstrates an absence of even minimal conditions for existence. **This report should hopefully reflect/suggest enduring solutions, not hopes, not temporary nets. Small farmers – fragmented, impoverished, migrating in search of survival – these are the realities our partners retain when they enter into the discussions.**

Should we be optimistic about the elasticity of adjustments or should we develop a policy for sustainable production which sustains the small producers, the women and children in communities which are fast disintegrating? The privatization argument is detrimental to the

commonality of natural resources, managed by people and structured by people for the common good. We look forward to an intense debate surrounding various aspects of the paddy chain, the needed policy advocacy and recommendations for the required public initiatives. This report is a step in that direction.

Dr. G. V. Ramanjaneyulu
Director
Centre for Sustainable Agriculture (CSA)
H. No: 12-13-445, Street No.1
Tarnaka, Secunderabad 500017
Tel: 040-27017735, 27014302
Fax: 040-27005243
Email: gvramanjaneyulu@gmail.com;
csa@csa-india.org
Website: www.csa-india.org;
www.indiagminfo.org

Bishwadeep Ghose
Programme Officer
Sustainable Production (SP) and HIV/AIDS (HA)
Flat No. 402, Eden Park
No. 20, Vittal Mallya Road
Bangalore 560 001
Ph. No. 080 22210514, 22244966
Fax No. 080 22270367
Email: b.ghose@hivos-india.org

Willy Douma
Programme Officer
Sustainable Production (SP)
Hivos, Raamweg 16
P.O. Box 85565
2508 CG The Hague
Ph. No. +31 70 376 5500
Fax No. +31 70 362 4600
Email: w.douma@hivos.nl

Dr. Shobha Raghuram
Director
Hivos India Regional Office
Flat No. 402, Eden Park
No. 20, Vittal Mallya Road
Bangalore 560 001
Ph. No. 080 22210514, 22244966
Fax No. 080 22270367
Email: s.raghuram@hivos-india.org

INTRODUCTION

Padmini Swaminathan

The Paddy Chain Workshop is an eye-opener in several ways. Taking paddy as an illustrative case, given its signal importance in the lives of large numbers of people and countries, a 'farm–to-fork' method was adopted to understand the trajectory of its passage from production to consumption. The Workshop did not follow the classic supply-chain methodology wherein a particular chain with all ***its*** nodes is generally traced; rather the workshop brought together people and organizations, all engaged with paddy in their respective regions and organizations but emphasizing different nodes of, not necessarily, the same chain. This pioneering effort on the part of the organizers, enabled wide-ranging and in-depth deliberations ***simultaneously*** on a number of linked issues, thereby enabling participants to get a glimpse of the strengths and weaknesses of each node as well as the magnitude and nature of tasks that need to be undertaken if this symbol of food security and food safety is to be preserved and strengthened. The organization of the Workshop was also exemplary in the manner in which it provided the context and the environment to weave in macro economic and social concerns at every step of the chain. The deliberations of the workshop, in our opinion, provide a comprehensive critique, in particular of our economic policies; at the same time, the presence of participants and organizations that have successfully demonstrated the viability of alternative structures and ways-of-doing provided the much needed relief and hope that Indian agriculture can still be salvaged and that food insecurity can be overcome.

This Introduction is aimed at outlining the contours of the problem facing the farm sector, whatever be the crop cultivated. However, each crop poses its own unique set of problems and to that extent requires policies to be flexible to address such uniqueness. The Workshop deliberations capture in detail ground level realities at different levels: at the level of institutions and structures; at the level of practices of cultivation and systems of marketing; at the density or otherwise of interventions [internal and external], and at the emerging opportunities as well as threats that opening up of the economy to global forces pose.

Taking the ***agricultural*** sector in general, a common but disquieting refrain heard among almost all economists as well as policy makers is that, emphasis on production has enabled the economy to achieve near self-sufficiency in staple food grains, yet, regressive institutions and structures of oppression have allowed very little percolation of benefits to those lower down the caste hierarchy and particularly the landless among the rural population. One manifestation of this phenomenon from macro data is that workforce dependent on agriculture has not

declined in any remarkable way, nor has the incidence of rural poverty significantly reduced. Further, contribution of the farm sector to gross domestic product has reduced over time even while population dependent on agriculture continues to grow. More nuanced analysis of the sector reveal the following set of issues that have, in our opinion, tremendous implications for not just our future strategies but also go some way in explaining the apparently contradictory outcomes of some of our policies and interventions. An illustrative set of issues would include the following:

[a] Self-sufficiency in food grain production has not imparted the necessary resilience to the sector to withstand heavy and sudden dislocations such as may be caused by, say, resorting to 'free' trade in food grains.

[b] The overall annual growth rate of agriculture declined to 3.6 percent during the 1990s from 3.9 percent during the preceding decades and that of its allied sectors declined to 3.7 percent from 4.2 percent during the corresponding periods. The growth of food grain production, which had accelerated to 2.9 percent in the 1980s, decelerated to 1.8 percent during the 1990s. As several economists have pointed out, what is disquieting is that the annual growth rate of food grain production was lower than the historical growth rate and barely kept pace with the population growth rate. Ironically, even at this slow growth of food grain production, its supply outstripped its effective demand and the 1990s witnessed a rapid and further increase in the buffer stocks held by the government, whose disposal has become a cause for concern apart from increasing the cost of management.

[c] The issue of whether or not the country should export/import food grain gets drastically diluted when viewed in conjunction with the fact that, notwithstanding the level of production of grains, food grain intake is still very low and has not shown much of an increase.

[d] Macro-level data do not capture sufficiently the themes of regional disparities as well as the growing disparities between rain-fed and irrigated agriculture. Green revolution significantly increased remunerative wage employment in pockets of assured irrigated areas while employment opportunities nearly stagnated in the vast rain-fed semi-arid areas. In the latter areas, wages remain low, underemployment of workforce is rampant; these are also the areas which have seen significant migrations of men folk in search of jobs leaving women and children to take of the not so productive lands. Since national level data systems do not provide cross-tabulated data one can only hazard guesses such as, that the marginally higher incidence of women as cultivators in the 1991 Census could be based on data from such areas since the migration of men would have made women and children cultivate the unproductive lands in their possession and extract

whatever they could from these lands. The larger point being made here is that the collection of differentiated data and analysis of such data are crucial for appropriate policy purposes.

[e] ***Generalized*** calls for increasing state investment in agricultural infrastructure are futile. Economists have cautioned against the mixing up of the goal of raising productivity with that of poverty alleviation. Raising productivity and poverty alleviation may require distinct and separate policy interventions, even if the general target audience is the loosely termed farmer community. In addition it is not enough to assert the importance of ***public sector*** over the private sector in terms of financial allocations. Serious attention needs to be given to improving performance and making every sector, public or private, accountable to the farming community.

While on the theme of public investment, what needs to be added is that, India's growth problem is not a temporary demand slump that can be tackled by additional government expenditure. ***The problem is both structural and one that requires investments in complementary inputs***. The economy's ability to absorb investment has diminished due to reasons both political and economic. Simply pouring more money in to the sector will not make it work. For example, the political decisions to provide free electricity, water and such other inputs do not contend with the fact that the distribution of land and other resources are skewed. Hence, apart from the fact that the organizations of services by government are department-wise, the more important fact is that, in the operationalisation of these [free] services there is no space to weave in structural factors such as the existing pattern of land-distribution and therefore the implications that this skewed distribution may have for the intended beneficiaries of particular services.

[f] The primary concern of the private sector is with technologies embedded in seeds, chemical equipment and other inputs that they produce and sell. This sector has shown no interest in investing in research for better techniques of soil and water management, rain-fed agriculture, cropping systems, environmental impact and long-term sustainability.

All of the above, in our view raises the crucial question, namely, what is the official role envisioned for the agricultural sector? Fifty odd years ago, when the country embarked on planned development, the agricultural sector was perceived as the engine that would drive the rest of the economy even while it formed a temporary parking lot for the poor. How does the scene compare in 2006? Going by the deliberations of the Paddy-Chain workshop and particularly the keynote address by Professor Utsa Patnaik, the agrarian sector is in the throes of a major crisis. There is no single reason for this state of affairs – a point that comes out forcefully from the Workshop papers. What the Workshop also underlines is that getting things right requires nothing short of a comprehensive understanding for meaningful intervention.

One way of working towards this comprehensive understanding is by tracing the trajectories of commodity chains such as paddy. What policy makers see as seemingly disparate issues to be

dealt by different departments [such as, for example, Public Distribution system and irrigation], become interwoven when viewed from a chain perspective? Thus for example, the discussions at the Workshop on what the indiscriminate promotion of paddy has done to water and its distribution, or, how the PDS system privileges paddy and wheat over other nutritious crops thereby impacting on cropping patterns, etc. – made it possible for the participants approaching the paddy chain from different angles to exercise caution when advocating policies based solely on their limited field of work. More important, the Workshop was signally successful in centrestaging two themes that, in our opinion, have not received the engagement that they deserve either by researchers or policy makers: one, the theme of organic production and the challenges it poses, and two, the almost complete dissociation of the primary producer [the farmer] from other nodes of the chain. Hitherto, the vulnerability of the primary producer is generally sought to be addressed by increasing support prices [on the assumption that the primary producer not only owns her/his product but also directly accesses the market], and/or by making inputs available at subsidized rates. The Workshop deliberations put paid to such facile arguments. On the contrary, the range of issues covered on these two themes in particular was not only breathtakingly large but clearly indicated that there exist no simple resolution to the complex nature of the issues at hand. At the same time, since most of the participants are also engaged in their own way in resolving some or several of the issues related to organic paddy production in particular and through this involvement in addressing larger issues such as IPRs, GE seeds, etc., the report can lay legitimate claim to the fact that its contributors are involved in building and furthering constructive alternatives even as the environment around them and with which they have to contend on a day-to-day basis is hostile, and geared more towards disempowering rather than empowering individuals, organizations and constructive alternatives.

Prof. Padmini Swaminathan
Director
Madras Institute of Development Studies
79, 2nd Main Road
Gandhi Nagar, Adyar
Chennai 600 020
Ph. No. 044 4412295/4419771
Fax. No. 044 4910872
Email: padminis@mids.ac.in; director@mids.ac.in

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THEORIZING FOOD SECURITY AND POVERTY IN THE ERA OF ECONOMIC REFORMS

Utsa Patnaik

Introduction

The correct theorizing of the questions of food security and poverty has become particularly important at the present time, which is one of rapid changes in the economic environment in which small producers including farmers and workers are living. In a poor developing country, the incidence of poverty is very closely linked to the availability of food, in which the staple food grains still remain predominant, accounting for two-thirds of the daily energy intake of the population. The measurement of poverty in India has traditionally adopted a nutritional norm specified in terms of an average daily energy intake measured in calories. The National Nutrition Monitoring Bureau has informed us that "the NNMB has consistently confirmed in successive surveys that the main bottleneck in the dietaries of even the poorest Indians is energy and not protein as was hitherto believed… the data also indicate that the measurement of consumption of cereals can be used as a proxy for total energy intake. This observation is of considerable significance as it helps to determine rapid, though approximate, estimates of energy intake at the household level."[1] It is this strong link between the staple food grains intake and poverty based on a nutritional norm, which enables us to put forward an analysis of the recent trends in food security and in poverty, in the light of the impact of changing economic policies during the last fifteen years.

The majority of academics and the Government of India as well as the Planning Commission today make two claims which I believe to be factually incorrect , claims which are underpinned by a wholly fallacious theoretical understanding of the current situation. They claim first, that there is 'over supply' of food grains relative to demand, (which they assume to be growing normally) and so food grains production should be cut back in favour of 'diversification'; second, that poverty has been declining in India in the era of reforms, specifically in the decade of the 1990s. My contention as regards both propositions is that they are incorrect, and that the correct position on theoretical and factual grounds is precisely the opposite. First, there is not over supply of food grains, but a drastic decline of effective demand for food grains especially in rural India owing to an abnormally fast loss of purchasing power during the last six years: so, far from cutting back food grains output, the correct policy is to raise purchasing power and

[1] NNMB, *25 Years of NNMB* (Delhi 1997).

restore effective demand as well as restore access to affordable food grains through a combination of a universal, and not targeted, employment guarantee scheme and through reverting to a universal, not targeted public distribution system.

Second, far from the percentage of population in poverty declining as claimed, the factually correct position on the basis of current data is that poverty is very high, affecting at least three-quarters of rural and over two-fifths of the urban population. Moreover the data show that the depth of poverty has increased considerably during the fifteen years of reforms, with more people being pushed down into a poorer nutritional status than before in most of the Indian states and at the All-India level. The reason that many academics and the Planning Commission reach the conclusion that poverty is declining, is that they use an estimation procedure which has no basis in logic and is indefensible on academic grounds. What that estimation procedure is and how it differs from the correct procedure is one of the main questions I would try to explain, for I believe that it is part of the 'right to information' that the intelligent citizen should be able to independently reach a judgement about the validity of the official procedure and not simply take the truth of certain statements for granted. My lecture today will focus on the correct theorizing of these two main questions – of declining effective demand for food grains, and of the extent of poverty. This has become extremely important because the widely prevalent incorrect theorizing in academic and government circles is leading to policy formulations and measures which will only serve to worsen mass welfare and plunge even larger sections of the rural population in particular into unemployment and food deprivation.

The first and second sections will briefly discuss the deflationary macroeconomic policies combined with exposure to global price declines, which has led to massive loss of purchasing power in rural India in the last six years and is reflected in falling food grains absorption and falling energy intake. The third section discusses the interpretation of the decline in food grains absorption while the fourth and last section takes up the question of poverty estimation and how official and most academic estimates use a particular indirect method of estimation, which completely de-links poverty from nutrition norms by ignoring current data which show the ground reality of rising nutritional deprivation and increasing depth of poverty.

1. What Deflationary Policies and Trade Liberalization have meant for the Rural Economy in India

Deflationary macroeconomic policies are beloved by international and domestic financial interest groups who are quite obsessive about controlling inflation and would prefer to see even an economy with a high rate of unemployment, growing slowly and raising unemployment further, rather than risk any possibility of prices rising. International creditors wish to maintain high real interest rates (inflation would erode real interest rates) - and are happy with bouts of asset deflation in developing countries so that these assets can be snapped up at low prices by their

corporations. Their insensate and obsessive fear of inflation can be seen in the policies advised uniformly by the International Monetary Fund to 78 developing countries in the 1980s and summarized in Table 1 from an IMF study. The first three policies – restraint on central government expenditure, limits on credit expansion, and reduction of budget deficit to GDP ratio, add up together to a strongly deflationary package and all three were actually implemented at the same time by four-fifths of the concerned countries, while two-thirds capped wages and over half devalued their currency.

The results of deflationary policies of the 1980s have been documented as sharp decline in rates of investment in both capital formation and in social sectors, leading to reduced or negative GDP growth and negative impact on the human development indicators. A number of studies since then have confirmed the adverse impact and have argued for expansionary policies.[2]

Table 1: Policies Followed by 78 Countries under Fund-guided Reforms

	Percentage of Total Number of Countries Implementing Policy
Restraint on Central GovernmentExpenditure	91
Limits on Credit Expansion	99
Reduction in Ratio of Budget Deficit to GDP	83
Wage Restraint	65
Exchange Rate Policy	54

Source: Quoted in Cornia, Jolly and Stewart (eds) *Adjustment with a Human Face,* 1987, Vol.1, p. 11.

Table 2: Reduction in Rural Development Expenditures under Economic Reforms, Selected Years 1985-90 to 2000-01

	1985-90 average	1993-4	1995-6	1997-8	2000-01
Rural Development Expenditures as Percent of NNP	3.8	2.8	2.6	2.3	1.9
Above plus Infrastructure	11.1	8.4	6.9	6.4	5.8

Source: Calculated from Reserve Bank of India, *Report on Currency and Finance, 1995-6*, Statements 8 and 146; and Government of India, Ministry of Finance, *Economic Survey*, various issues 2001-02 to 2003-04. Rural development expenditures here include plan outlays on agriculture, rural development, special areas programmes, irrigation and flood control, village and small scale industry. Infrastructure includes power and transport. Calculated from current values of expenditure and NNP.

[2] See Cornia, Jolly and Stewart, 1987, Baker, Epstein and Pollin 1998, Halevy and Fontaine 1998.

Table 3: Decelerating Growth Rates of Agricultural Output and of Population

Period	Food Grains	Non-Food Grains	All Crops	Population
1980-81 to 1989-90	2.85	3.77	3.19	2.1
1990-91 to 2000-01	1.66	1.86	1.73	1.9

Source: Govt of India, Ministry of Finance, *Economic Survey, 2001-02*, p. 189. Note that slowing down of output growth is much steeper than slowing down of population growth implying falling per head output.

Table 4: Employment Decline in Rural India

	Year	Year	Year	Growth per Annum	
Rural	1983	1993-1994	1999-2000	1983 to 1993-4%	1993-4 to 1999-00%
Population, mn.	546.6	658.8	727.5	1.79	1.67
Labour force, mn.	270.4	2.15	0.96	204.2	255.4
Work force mn.	187.9	241.0	250.9	2.40	0.67
Unemployed mn. (2–3)	16.3	14.4	19.5	- 1.19	5.26

Source: Govt. of India, Ministry of Finance, *Economic Survey 2002-03*, p. 218.

India has been following exactly the same deflationary package of policies since 1991, whose impact has been especially severe in India's agricultural sector which saw sharp reduction in public planned development expenditures in rural areas, which has traditionally included agriculture, irrigation – vital for maintaining output – employment generation programmes, drought-prone areas and special areas programmes, village and small scale rural industry. Out of these the employment-generating programmes had assumed a special importance from the drought year 1987 onwards.

During the 7th Plan period marking the pre-reforms phase, from 1985 to 1990, Rs. 51,000 crores was spent on rural development (including also village and small scale industry), amounting to almost 4 percent of Net National Product, and Rs. 91,000 crores or over 7 percent of NNP was spent on Infrastructure.[3] By the mid-1990s, annual spending on rural development was down to 2.6 percent of NNP, and after including infrastructure, less than 7 percent was being spent compared to 11 percent during the 7th Plan. Further declines took

[3] In Infrastructure we are including the expenditures on Energy, Transport and Communications.

place so that by 2000-01 the share of spending under these heads was down to 5.8 percent of NNP, the rural development part halving to only 1.9 percent (see Table 2). The per capita expenditures obviously would have declined even more sharply. I estimate that in constant 1993-4 prices about Rs. 30,000 crores less was being spent by the end-decade year 1999-2000, compared to the beginning, 1990-91. A crude point-to-point comparison would suggest an annual income loss of between 120,000 to 150,000 crores of rupees assuming a multiplier value between 4 and 5. Actual income loss would have been greater taking the cumulative losses over successive years. This harsh contractionary policy had nothing to do with any objective resource constraint but simply reflected the loan-conditionalities of the BWI which were internalized and sought to be justified by the Indian government.

There is no economic rationale for believing that "public investment crowds out private investment" which is the common argument put forward for reducing the state's role in rural development. Precisely the contrary has been shown to hold for certain types of investment essential for an irrigation-dependent agriculture like India's such as irrigation projects of all types. Private tube-well investment is profitable only where the water table remains high owing to seepage from state-built canal irrigation systems, and where community integrated watershed management (planting trees and using check-dams) is encouraged with state help. Private over-exploitation of ground water has now reached a crisis point in many states in India, with the water table falling rapidly and with even the richest farmers unable to reach water after investing heavily in deep bore-wells and submersible pumps. Other infrastructure investment such as rural power projects, roads, bridges, school buildings, clinics and so on, are never undertaken by private investors but are vital for stimulating development and providing livelihoods both directly to those employed in building them and through the important multiplier effects of the increased wage incomes being spent on simple consumer goods and services in villages.

The net result of the unwise cut-back of public investment and in RDE has been a slowing of the rate of output growth – both food grains and non-food grains growth rates have almost halved in the nineties compared to the pre-reform eighties, and both have fallen below the population growth rate even though this too is slowing down (Table 3). This has led to declining per capita output during the nineties, for the first time since the mid-sixties agricultural crisis which however had been short-lived, whereas per head agricultural output continues to fall today even after a decade: The Agricultural Universities had earlier played a major role in developing and helping to disseminate new crop varieties, and the cut in funding for research in these Universities by affecting the search for better rain-fed crop varieties, has also contributed to the deceleration in the growth of yields. With increasing use of land for commercial and residential purposes, the gross sown area in India has remained static since 1991, so it is only

through yield rise that output growth can be maintained and it is here that the failure is evident.

The combination of decline in state RDE and the near-halving of agricultural growth has produced a major crisis of rising unemployment. There is both fast growing open unemployment and fall in number of days employed of the work force during the economic reforms period. Even with constant labour coefficients (labour days used per unit of crop output) a near halving of employment growth was to be expected given the decline in crop output growth, but the decline in jobs has been even more as mechanization especially of harvesting has led to falling labour coefficients. Further the rural non-farm employment growth which was robust in the 1980s owing to reasonably high state RDE, had declined in the nineties. So we see not just jobless growth, but job-loss growth. The ratio of labour force to population, or the participation rate, has declined (lower participation rate reflects difficulty of finding work), the ratio of work force to labour force has declined because open unemployment has been growing at over 5% annually (Table 4). The elasticity of employment with respect to output was 0.7 during 1983 to 1993-4 but has declined to 0.01 or virtually zero, taking the reforms period 1993-4 to 1999-00.

Let no-one imagine that unemployed rural workers are migrating and finding employment in industry: there have also been massive job losses in manufacturing during the reform period and the share of the secondary sector in GDP has fallen from 29 to around 22 percent during the nineties, in short India has seen de-industrialization. The agricultural depression has reduced the share of agriculture in GDP from about a third at the beginning of the nineties to just over a fifth a decade later, but the labour force and population dependent on agriculture has hardly fallen reflecting decline in per head incomes. Thus both the material productive sectors have declined and the only sector which has ballooned in an abnormal manner[4] is the tertiary or services sector which now accounts for over half of GDP.

Only a small proportion of the services sector comprises IT-enabled high income services, business process outsourcing, domestic tourism services and the like. The major part in employment terms, is still low-productivity activities in which the rural displaced workers stagnate at low income levels, servicing the requirements of the upper income urban elites who have been improving their real income position fast. Disposable incomes have risen even faster for this segment since a part of the neo-liberal reforms include reduction in direct tax rates.

[4] A rising contribution of services to GDP from an initial situation of a high share of industry to GDP has been typical for advanced economies. India however is seeing a fast shift to services from a relatively low initial share of manufacturing and mining output, less than 30% of GDP, which is now down to about one-fifth. This shift to services reflects de-industrialization and worsening income distribution.

Advanced countries usually have this upper-income 10 to 15 percent minority of Indians in mind when they demand market access for their manufactures and agricultural products, and no doubt 100 to 150 million people is a large potential market. But the situation of the vast majority of the mainly rural population who not merely stagnate at low income levels but whose position is considerably worse today than a decade earlier, cannot be ignored: a potentially highly destabilising situation is in the making.

While income and employment reduction through deflationary policies is the first main reason for loss of purchasing power in rural India, the second main reason is the unwise opening to global markets through full trade liberalization at a time from the mid-1990s, when global markets went into recession and primary product prices started falling – a fall which continues to this day.

2. More Trade Leads to More Hunger in Developing Countries under Global and Local Deflationary Conditions

The land resources of India, more so than in most developing countries, have the potential for producing a highly diversified range of products, not only the crops and fruits grown in the summer season in temperate lands but also the typically tropical crops, which cannot be grown at all in advanced countries located in temperate regions. The crops of our lands have been demanded abroad in advanced countries for over three centuries for meeting their direct consumption and raw material needs. *But, historically the growth of exports from tropical agriculture under free trade regimes, has always led to a fall in domestic food grains output and availability, plunging the mass of the population into deepening under-nutrition and in extreme cases into famine.*[5] This is bound to happen since land is not a reproducible resource, and heavy external demand made on our more botanically diverse lands by advanced countries to meet their ever-rising and diversifying needs, leads to diversion of our land and resources away from non-traded locally consumed food staples to meet export demands. (The Ricardian theory of comparative advantage which says there is necessarily mutual gain from specialization and trade, contains a material and logical fallacy since the conclusion is based crucially on assuming that 'both countries produce both goods' which is factually untrue for agriculture. The advanced countries mainly located in cold temperate regions cannot produce tropical crops at all, the cost of production of say coffee or rubber cannot even be defined in these countries, leave alone relative cost and transformation frontiers).[6]

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5 In the half-century before Indian independence, per capita foodgrains output fell by nearly 30 percent while export crops grew ten times faster than foodgrains. I have tried to document some historical and current cases of the inverse relation between primary sector exports and domestic foodgrains absorption. - see Patnaik 2003a.

6 My paper "Ricardo's Fallacy" is in press and a shorter version is available in Patnaik 2003a.

In theory, more exports from developing countries can accompany more food production for domestic needs, but this can only happen when there is substantial rise in investment to raise productivity, for land is a non-producible resource whose 'supply' can only increase via investment permitting one hectare to produce what two hectares did earlier.

The deeply disturbing feature of the current thrust for liberalizing trade is that it has been taking place within an investment-reducing, deflationary regime. I predicted in 1991 that given the deflationary climate, food security would be undermined with trade liberalization in India and that is precisely what has happened. As soon as trade was liberalized from 1991, within a few years, 8 million hectares of food-growing land were converted to exportable crops leading to fall in per head food grains output, but farmers did not benefit since their exposure to steeply falling global primary prices from mid-decade has plunged them into spiralling farm debt and insolvency. Over seven thousand farmer suicides in India since 1998 are only the tip of the iceberg – there is a pervasive agrarian crisis and food grains absorption in India is back to the level prevailing fifty years ago.

Trade liberalization and an export thrust makes sense when local and global markets are expanding owing to expansionary developmental policies which promote growth in the material productive sectors, rising employment and incomes. But when the opposite is the case, when both globally and in local economies the dominant policy sentiment is strongly deflationary as at present, then trade liberalization spells lowered mass welfare in developing countries.[7] India's experience in the last fourteen years provides a good illustration of this.

India, a signatory to GATT 1994, removed all quantitative restrictions on trade and converted to tariffs by April 2001, lowering the average tariff rate at the same time to 35%, or well below the bound rates which were 100% for crops and 150% for agricultural processed products. India's thrust for trade liberalization could not have been worse timed, since advanced country markets were in recession and global primary product prices went into a steep tailspin with 40-50 per cent decline in unit dollar prices of all crops – cereals, cotton, jute, sugar, tea, coffee – and up to 80 percent decline in some oil crops between 1995 and 2001 as Table 5 shows. With a brief spike in 2002 prices have continued to fall and some prices are today lower than as far back as 1986. The price to growers is even lower than world price as state marketing boards' activities have been replaced by private transnational companies.

As prices fell for Indian producers of export crops, their access to low-cost credit was reduced under financial sector reforms. Since the nationalization of banks in 1969 agriculture and small scale industry had been treated as priority sectors offered bank credit at a lower than

[7] See my discussion in Patnaik 1996, 2003c.

average interest rate but that ended with financial reforms, thrusting farmers into dependence on private moneylenders and high-cost credit (interest rates are usurious, ranging from 36 to 60 percent annually). Other crucial input prices including power tariff were raised as part of the neo-liberal dicta on reducing subsidies (which were already meagre compared to developed countries). Reduced tariff protection meant that producers of rice, fresh fruit and dairy products faced the undermining of their incomes from inflow of usually heavily subsidized foreign goods.

More than five thousand indebted farmers, mainly cotton farmers, have committed suicide in Andhra Pradesh alone since 1998 as its government which had entered into a state-level Structural Adjustment Programme with the World Bank, raised power tariff five times even as cotton price fell by half (Table 6). Over a thousand farmer suicides have also taken place in Punjab, mainly in the cotton belt, and in the four years from 2001, over 1,250 suicides are recorded in Wayanad in Kerala as prices to the local growers of coffee, tea and spices have nose-dived even more steeply than global prices once large companies have taken over purchase and marketing. Thus by 2003 the price of coffee to the grower was only one-quarter and that of tea and pepper only one-third of the prices prevailing in 1999.

The agrarian crisis was the main reason for the decisive mass rejection of neo-liberal policies and the May 2004 electoral defeat of the NDA coalition at the Centre as well as the TDP government in Andhra Pradesh. In recognition of the employment crisis the new United Progressive Alliance or UPA had promised to implement an Employment Guarantee Act which has been formulated, but which has been considerably diluted already by targeting to those officially defined as 'poor' and by not setting a time-frame for implementation.

India has exported record volumes of wheat and rice during the last six years, and its share in global exports of rice and wheat has risen quite noticeably. Despite the drastic slowing down of output growth noted in Table 3, India exported nearly 20 million tonnes of food grains during the two years 2002 and 2003, and the share of grain exports in total exports has risen from under one-fifth to almost a quarter. There is higher global trade integration reflected in rising trade-GDP ratio. During the severe drought year starting from monsoon 2002, despite grain output being 30 million tonnes lower than in the previous year, from June 2002 to November 2003, a total of 17 million tonnes of food grains were exported by the former NDA government. Superficially it looks as though policies of trade liberalization have 'worked.'

However the crucial fact which is suppressed in official publications and in the writings of pro-reform economists, and this is true even after the elections and the change in government, is that the vastly increased grain exports have been coming out of more and more empty stomachs as millions of rural labourers and farmers have suffered job loss and income decline. Food grains absorption in India today has reached a historic low as a result of the massive decline in

purchasing power especially in villages owing to the combination of rising unemployment, rising input and credit costs for farmers and exposure to global price declines. Loss of purchasing power is pervasive affecting both the 158 million wage-dependent workers as well as the 120 million cultivating workers and their families. Targeting the food subsidy from 1997-8 by restricting supply of cheaper grain to only those officially identified as 'below the poverty line' has also added to the institutional denial of affordable food grains to the poor, not merely owing to mistakes of wrong exclusion from the set of the officially poor, but also owing to the gross official underestimation of the numbers in poverty, discussed at the end of the paper.

Table 5: Prices of Some Important Traded Primary Products, in US dollars

	1988	1995	1997	2000	2001 (Jan.)	Per cent Change 2001 over 1995
Wheat (US HW)	167	216	142	130	133	- 38.2
Wheat (US RSW)	160	198	129	102	106	- 46.5
Wheat (Argentine)	145	218	129	112	118	- 45.9
Maize (Argentine)	116	160	133	88	80	- 50.0
Maize (US)	118	159	112	97	92	- 22.0
Rice (US)	265.7	-	439.0	271	291	- 33.7
Rice (Thai)	284	336	316	207	179	- 46.7
Cotton	63.5	98.2	77.5	66	49.1	- 50.0
Groundnut Oil	590	991	1010	788*		- 20.5*
Palm Oil	437	626	93.5	74.7*		- 88.1*
Soyabean Oil	464	479	625	71.4*		- 85.1*
Soyabean Seed	297	273	262	199	178	- 34.8
Sorghum seed	110	156	111	102	99	- 36.5
Sugar	10.2	13.3	11.4	10.2	9.2	- 30.8
Jute	370	366	302	276*		- 24.6*

Source: *Food Outlook*, Various issues from 1986 to 2001; available from Global Information and Early Warning System on Agriculture, U N Food and Agriculture Organization; and *Monthly Commodity Price Bulletin*, UNCTAD 2001. For the cereals, edible oils and seeds the unit is USD per ton, for cotton and sugar, US cents per lb. and for Jute, USD per metric ton.

* Relates to 1999, and percent change is 1999 compared to 1995.

The 2004 price data show that sugar, cotton and jute prices continue to remain flat around 2001 levels while the cereals show some rise.

Table 6: Suicides of Farmers in Andhra Pradesh by District

No.	District	1998	1999	2000	2001	2002	Total
1.	Warangal	77	7	7	28	903	1022
2.	Ananthapoor	1	1	50	50	10	112
3.	Mahaboobnagar	14	2	25	10	-	51
4.	Karimnagar	31	10	6	30	1220	1297
5.	Guntur	32	10	1	6	-	49
6.	Khammam	20	5	3	6	2	36
7.	Medak	15	3	2	8	-	28
8.	Adilabad	9	8	5	13	-	35
9.	Nalgonda	5	1	10	11	8	35
10.	Nizamabad	9	1	-	11	- 457	478
11.	Rangareddy	5	-	3	6	-	14
12.	Kurnool	4	4	2	4	-	14
13.	Chittoor	3	-	-	2	-	5
14.	Krishna	4	1	1	3	1	10
15.	Prakasham	1	3	-	2	-	6
16.	West Godavari	1	-	-	5	-	6
17.	East Godavari	-	-	1	2	-	3
18.	Sreekakulam	-	1	-	-	-	1
19.	Cuddapah	-	-	-	4	-	4
20.	Visakapatnam	-	-	-	1	-	1
	Unknown	2	1	-	-	-	3
	Total	**233**	**58**	**116**	**202**	**2601**	**3210**

Note: The total number of suicides up to 2004 is over five thousand. Data giving the numbers of suicides up to Jan. 29, 2002 given above, was supplied by Kisan Sabha on the basis of police records, at a symposium on farmer suicides held at Hyderabad (Andhra Pradesh), 3 February 2002 and attended by the author. The Table has been partially updated by incorporating information for the entire year 2002, so far available for the three districts only (Warangal. Karimnagar and Nizamabad) as reported in *The Hindu*, Hyderabad edition, Jan. 6, 2003. For the other districts the figures given in the last column continue to refer to a single month, January 2002. Additional suicides numbering 1700 have taken place since then, for which the district break-up is not yet available.

3. Large Decline in Food Grains Absorption per Head is Owing to Falling Purchasing Power, Not 'Voluntary Choice'

The per capita availability or absorption of food grains in India has declined alarmingly during the decade of deflationary neo-liberal economic reforms, to only 155 kg annually taking the three year average ending in 2002-03. This current level is the same as fifty years ago during the First Plan period, and it is also the level seen during 1937-41 under colonialism. This means that the food security gains of the four decades of protectionism up to 1991, have been totally reversed.

After Independence, from the early 1950s to four decades later, taking the 3 years ending 1991, the per capita food grains availability had climbed slowly from 155 kg to 177 kg - the achievement not only of 'Green Revolution' but of expansionary policies slowly raising mass incomes and demand, without too much rise in already high inequality. While the Green Revolution had many problems, its positive achievement in raising grain availability and absorption, should not be underestimated. As the new regime, of deflationary economic reform policies from 1991 eroded mass employment and incomes, we find a decline of per capita absorption to 174 kg by the triennium ending in 1998 and a very steep fall after that to the current abysmally low 155 kg level. Forty years of successful effort to raise availability has been wiped out in a single decade, with over four-fifths of the decline coming in the last six years.[8]

Availability or absorption, is calculated from the hardest data we have, on annual net output[9] adjusted only for change in public stocks and in trade, so by definition it has to cover all final uses - direct use for consumption as grain and its products, use as feed for converting to animal products (a part of this is exported), and industrial use. Per head availability/absorption (the two are used as synonyms) is now one of the lowest in the world, with only Sub-Saharan Africa and some least developed countries registering lower absorption than India. Since urban India has been increasing average absorption and average calorie intake, it is rural India where the fall has been very steep. For comparison, China absorbed 325 kg grains per capita (excluding tubers) in the mid-1990s compared to India's less than 200 kg at that time, Mexico absorbed 375 kg, European countries absorbed 700 kg or more and USA absorbed 850 kg.

Although grain output per head fell by about 6 kg. over the last six years ending in 2002-03, as may be checked from Table 7 the per head absorption has fallen much more, by nearly 20 kg.

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8 I have discussed this in more detail in Patnaik 2003b, 2004.

9 The official practice for 50 years, which I have followed in Table 7 is to deduct 12.5 percent from gross output in tonnes, of foodgrains (cereals plus pulses) on account of seed, feed and wastage, and to the net ouput so obtained, add net imports and deduct net addition to public stocks.

over the same period. The average Indian family of four members is absorbing 77 kg less of food grains annually than a mere six years ago and since in urban India absorption has risen (calorie intake has also risen), it is the rural family which is absorbing much less. This abnormal fall is because of the loss of purchasing power for reasons already discussed, and it got reflected in a massive build-up of unsold public food stocks, reaching 63 million tonnes by July 2002, nearly 40 million tonnes in excess of the normal stocks for that time of year. Rather than starting large-scale food-for-work schemes to restore lost work and incomes, over 17 million tonnes of food grains were got rid of by the NDA government by exporting out of stocks with subsidy, and it went mainly to feed European cattle and Japanese pigs.

There can be two very different ways that such huge food stocks can build up: demand growth is normal but output increases much faster, or alternatively output increase is normal, but demand reduces very fast owing to loss of incomes, and the demand curve shifts downwards. In both cases supply exceeds demand, but for very different reasons. As already shown output growth has not been normal but has actually gone down, so the first reason does not hold. It is mass effective demand, hence absorption which has declined to a much greater extent, so it is the second reason and not the first which accounts for the present paradox of increasing rural hunger and record grain exports. If rural demand had been maintained even at the 1991 level (forget about any increase) the absorption of food grains today would be 26 million tonnes higher than it is, and there would be no crisis in the agriculture of Punjab and Haryana, which have lost an internal market to that extent in the last six years alone. Instead of rural per capita calorie intake declining to below the urban average, as has been the case in the nineties, energy intake would have been maintained.

The official position is one of wholesale denial of these obvious facts and the creation of what can only be called a fairy tale. It is argued that there is voluntary reduction in food grains intake and thus there is 'over-production' requiring a cut-back in cereals output - a position not supported by the facts. The full fairy tale set out in official publications goes like this: every segment of the population is reducing demand for cereals because average income is rising; (here, the increased income is assumed to be distributed in the same way as earlier, with no increase in inequality). People of all expenditure classes are voluntarily diversifying their diets away from cereals. The only reason that farmers continue to produce more cereals than demanded, and hence big stocks build up, is because too much output has been encouraged by 'too high' administered, minimum support prices of cereals. So MSP should be cut, cereals output in excess of what is demanded at present should be discouraged and the output pattern in agriculture should be diversified to more commercial export crops under the aegis of agri-businesses.

This analysis is completely incorrect and is inconsistent with the hard facts of rising unemployment, falling output growth, immiserization of farmers in debt and land loss, and resulting deep agrarian distress. It is dangerous in reaching policy conclusions which are the opposite of those required, and which if implemented will reduce food security further and pauperize even more farmers.

To give an analogy, albeit an imperfect one, suppose that a patient has been wrongly diagnosed by a doctor and loses weight rapidly to the extent of 30 kg. The doctor then blames the tailor for making the clothes of the patient too big and advises that the old clothes should be thrown away and new ones sewn to fit his wasted body. Such advice will certainly alarm the patient for it shows that an abnormal situation is being rationalized as normal and no treatment to restore the patient to health will be followed. The official position on food grains output and food security, regrettably shared by many academics who seem not to have applied their minds to the matter, is indicative of such illogical reasoning and is alarming indeed for farmers and labourers in distress. The official prescription of reducing MSP, ending open-ended procurement and cutting back on output will worsen food deprivation and deepen poverty for the millions of farmers and labourers already in deep distress. The idea that price fall benefits 'the consumer' ignores the fact that three-fifths of consumers in a poor country are themselves rural producers or dependent for jobs on producers, and deflation harms their incomes.

It is an alarming scenario too for the farmers of Northern India who over the last four decades have been asked to specialize in food grains production, and have performed magnificently, selling their rising surpluses uncomplainingly to the Food Corporation of India even when the domestic procurement price was far below world price in the 1970s and again in the decade up to the mid 1990s. They have ensured cheap food to urban areas and food deficit regions by not seeking to maximize their own incomes. Today, as a result of the official embracing and putting into practice of mindless deflationary policies which have reduced mass purchasing power, they have lost internal grain markets to the tune of 26 million tonnes and are being given the irresponsible advice to 'diversify' and export to world markets even though these continue to be in recession, and even though all international organizations predict continuing fall in agricultural terms of trade up to 2009-10. (Calculations by FAO shows that the terms of trade for agriculture globally, with 1990-91 as base year equal to 100, was about 50 by 2001, compared to over 200 in the 1970s. All projections up to 2009-10 by international bodies, show continued absolute price fall and further decline in terms of trade).

The official solution is inhumane in rationalizing increasing hunger as voluntary choice, basing its prescriptions on bad theory and fallacious reasoning. The only solution which is both

humane and is based on sound economic theory, is to restore lost internal purchasing power through a universal Employment Guarantee, to spend to begin with, at least Rs 65 to 75 thousand crores annually on rural development (this is only 2.3 percent of the 2005-06 estimated NNP), and to raise this steadily by an additional 0.5 percent annually until it reaches at least 4 percent of NNP by 2009-10. Only then would the same spending share be reached as during the 7th Plan, two decades after reforms started.

The question that is neither raised nor answered in official publications like the *Economic Survey* and the Reserve Bank of India's *Report on Currency and Finance* which articulate the fairy tale of voluntary diversification, is - How can people suffering employment loss and facing unprecedented crop price declines, be inferred to be better off and be voluntarily reducing cereals demand, and how is it that the current reduced level of total absorption of food grains per head of 155 kg per annum, is not seen in any country except the least developed and sub-Saharan African countries? The observed falling share of food expenditure in total expenditure for almost every expenditure group, is officially cited as proof of every income segment including the poorest diversifying diets and becoming better off, and seems to have persuaded some academics. No attention is paid to steadily falling average calorie intake in rural India as 'diversification' proceeds. The argument is quite fallacious and is based on a simple confusion between the necessary and sufficient conditions for improvement.

A falling share of food expenditure in total expenditure is a necessary, but not a sufficient index of the consumer becoming better off. The food spending share can fall when a person is getting worse off because income is falling, and some food expenditure has to be sacrificed to buy fuel (which is jointly demanded with food grains), incur transport costs in search of work, and so on. Data for sub-Saharan African countries show dietary 'diversification' i.e falling share of calories from cereals and rising share from animal products, when absolute calorie intake is declining quite steeply as per capita income declines (see Patnaik 2003b for a discussion). In effect, a Sub-Saharan Africa already exists in rural India today.

The bizarre official efforts to re-invent increasing hunger as free choice, are buttressed by spurious estimates of the population in poverty, discussed in the last section.

Table 7: Summary of Annual per capita Food Grains Output and Availability in India in the Nineties (Three Year Average)

Three-yr. Period Ending in	Average Population million	Net Output per Head		Net Availability		Per Head Food Grains	
		Cereals Kg.	Food-grains	Cereals Kg.	Pulses Kg.	Kg./ Year	Gms/ day
1991-92	850.70	163.43	178.77	162.8	14.2	177.0	485
1994-95	901.02	166.74	181.59	160.8	13.5	174.3	478
1997-98	953.07	162.98	176.81	161.6	12.6	174.2	477
2000-01	1008.14	164.84	177.71	151.7	11.5	163.2	447
Individual Year							
2000-01	1027.03	157.79	167.43	141.42	9.64	151.06	414
2001-02	1046.44	165.40	177.01	146.76	11.61	158.37	434
*2002-03**	*1066.22*	*140.54*	*150.09*	*148.14*	*9.55*	*157.69*	*427*
Average of the Years 2000-01 & 2001-02	1036.74	161.63	173.30	144.51	10.64	155.15	425
Change in Per Capita Availability of Foodgrains, %							
Triennium ending 1991-92 to Triennium ending 1997-98					*- 1.6*		
Triennium ending 1997-98 to biennium ending 2001-02					*- 10.9*		
Total Change, 1991-92 to 2001-02.					***- 12.3***		

Source: Govt. of India, Ministry of Finance, *Economic Survey*, various years.

Note: Population growth rate calculated as 1.89% using Census population totals of 1991 and 2001. The population figure for 2001 used above, is the March 2001 Census total of 1027 million which is 6 million less than the mid-2001 figure of 1033.3 million used in the *Economic Survey*, 2002-03 in its Table S-21. The 2002 and 2003 population is obtained above by applying the growth rate of 1.89% to this March 2001Census figure. My underestimation of population is deliberate. The reader can check that actual availability per head would be lower by about 1 kg. in each year from 2001 using the official population figures.

*2002-03 was a severe drought year.

4. Alternative Measures of Head-Count Poverty: or, How to Count the Poor Correctly versus Illogical Official Procedures

Poverty studies in India since the early 1970s, have been based on the use of a 'poverty line' expenditure level, defined as that level of expenditure per capita per month on all goods and services, whose food expenditure component provided an energy intake of 2400 kcal per capita in rural areas and 2100 kcal per capita in urban areas. All persons spending below the poverty line expenditure are considered to be poor. The required daily allowance (RDA) of energy was specified by the Indian Council for Medical Research and recommended by the Nutrition Expert Group to the Planning Commission in 1969. This is obviously a very minimalist definition of poverty, since no norms are set for essential non-food items of spending such as on fuel for cooking and lighting, clothing, shelter, transport, medical care or education.

The data base for estimating poverty has been the National Sample Survey Rounds on Consumption Expenditure which take the household as the sampling unit. These surveys present the distribution of persons by monthly per capita expenditure groups, and since the quantities of foods consumed and their calorie equivalents are available, they also present the calorie intake per capita per diem by expenditure groups. That particular expenditure group whose food expenditure met the calorie requirement in 1973-74, was identified and the relevant expenditure was defined as the poverty line expenditure (often this is mis-labelled as poverty line *income*, but we have no information on income). Large sample surveys are carried out at five-yearly intervals, the latest available data being from the 55th Round relating to 1999-2000, from which the relevant data for All-India is reproduced in Table 8 using two published Reports of the NSS.

A good idea of the current magnitude of head-count poverty can be obtained by the lay person without any calculations, simply by inspecting the data in Table 8. Looking at the first, second and the fourth columns, 69.7 percent or say seven-tenths of the rural population of India, spending less than Rs. 525 per month per person, was below the average calorie level of 2403 (nearly the same as the 2400 norm), which was obtained only by the next higher spending group of Rs. 525-615. Since persons in the lower part of this group also obtained below 2400 calories, the poverty percentage is a bit higher than seven-tenths, and on plotting the data on a graph we obtain the more exact figure of 74.5 percent. Yet, the official Planning Commission figure of rural head-count poverty from the same data is only 27 percent! The difference between the estimate obtained by direct inspection of the latest data and the figure as given by the Planning Commission, is 47.5 percent, so nearly half of the actually poor rural population, about 350 million persons, are excluded from the set of the officially poor.

Again, from direct inspection we see that about two-fifths of the urban population spending below Rs. 575 per capita per month obtained less than 2091 calories (very close to the 2100 urban norm) which was the average for the next higher spending group. The exact percentage in urban poverty on plotting the graph, is 44 percent. The Planning Commission figure for urban poverty for the same year is only 23.5 percent. What explains this big difference?

Table 8: Percentage Distribution of Persons by Per Capita Monthly Expenditure Groups and Average Calorie Intake per diem, 1999-2000, All-India

Rural Monthly per capita Expenditure Rupees	Calorie Intake per diem per Capita	Per cent of Persons %	Cumulative per cent of Persons %
Below 225	1383	5.1	5.1
225-255	1609	5.0	10.1
255-300	1733	10.1	20.2
300-340	1868	10.0	30.2
340-380	1957	10.3	40.5
380-420	2054	9.7	50.2
420-470	2173	10.2	60.4
470-525	2289	9.3	69.7
525-615	2403	10.3	80.0
615-775	2581	9.9	89.9
775-900	2735	5.0	94.9
900 & more	3178	5.0	100
ALL	2149	99.9	
SUMMARY 470-525 and less	2289 and less	69.7	
525-615	2403	10.3	
615-775 and more	2581 and more	19.9	

Urban Monthly per capita Expenditure Rupees	Calorie Intake per diem per Capita	Per cent of Persons%	Cumulative Percent of Persons %
Below 300	1398	5.0	5.0
300-350	1654	5.1	10.1
350-425	1729	9.6	19.7
425-500	1912	10.1	29.8
500-575	1968	9.9	39.7
575-665	2091	10.0	49.7
665-775	2187	10.1	59.8
775-915	2297	10.0	69.8
915-1120	2467	10.0	79.8
1120-1500	2536	10.1	89.9
1500-1925	2736	5.0	94.9
1925 & more	2938	5.0	100
ALL	2156	99.9	
SUMMARY 500-575 and less	1968 and less	39.7	
575-665	2091	10.0	
665-775	2187	50.2 and more	

Source: National Sample Survey Organization (1999-2000) Report No. 471, Nutritional Intake in India for calorie intake data by expenditure groups and Report No. 454, Household Consumer Expenditure in India - Key Results for the distribution of persons. The calorie intake data refers to the 30 day recall so the distribution of persons by the same recall period is taken above.

The Planning Commission has never officially given up the nutritional norm of 2400 calories. The majority of economists in India believe that this norm is still being followed. The reality is that the actual estimation procedure followed by the Planning Commission has de-inked its poverty estimates completely from the nutrition norm. The poverty line was obtained following

the norm, only in the year 1973-74 using the 28th Round NSS data, a date three decades in the past. For that year at prices then prevailing, the rural and urban poverty lines were Rs. 49.09 and Rs. 56.64 per capita per month, since at these expenditures the 2400 rural and 2100 urban calorie intake norms were satisfied. It was found that 56.4 percent of the rural and 49 percent of the urban population were below these poverty lines.[10]

For later years, strange though it may seem, no use was made of a single iota of the consumption data thrown up by as many as five successive large-sample surveys (in 1977-8, 1983, 1988-9, 1993-4, and 1999-2000). There was no official attempt to update the poverty lines on the basis of the available current information on what expenditure was actually required to meet the nutrition norm. Rather, the three decade old poverty lines (Rs. 49.1 and Rs. 56.6, rural and urban), were simply adjusted upwards by using a price-index, while assuming an invariant 1973-74 consumption basket. The adjusted poverty line was then applied to the cumulative distribution of persons by expenditure groups, in current NSS data to obtain the 'poverty percentage'. Thus the current data were, and are being used selectively, with only the distribution of persons by expenditure classes being used, and the associated energy intake part being ignored completely. The declining energy intake corresponding to official poverty estimates are never mentioned, nor do academics following the same method ever mention the even lower calorie intake corresponding to their estimates (vide Deaton 2003a, 2003b). The credibility of official and similar academic poverty estimates would certainly come into question if the educated public at large was informed how far below RDA the consumption standard has been pushed by the official method.

For example the official price-index adjusted poverty line for 1999-2000 was Rs. 328 only (about 6.5 times Rs. 49) and this has been applied to the first and last columns of Table 8 to read the population below this line which came to 27%. No attention was paid to the fact that at this expenditure a person could access at most only 1890 calories, over 500 calories per day below the RDA (Required Daily Allowance) and nor is this fact ever mentioned to the public when poverty estimates are quoted by the Planning Commission. This amounts to suppression of information and is not an academically acceptable procedure. The same applies to the academics who follow the official method and who never allude to the low maximum calorie intake corresponding to their poverty estimates.

Academics writing earlier (R. Nayyar 1991) however, had estimated poverty both by direct inspection of current data and by the official method, and had explicitly noted that the official poverty estimate diverged more and more over time from the much higher poverty percentages

[10] It is a curious matter of chance that poverty lines were Rs. 49.1 and Rs. 56.6 while the corresponding poverty percentages were 56.4 and 49.

yielded by current data. As the base year of the official method gets further back in time the divergence has assumed absurd proportions. In 1993-4 the official method gave 37.3% in poverty, which meant only those persons were considered poor whose daily calorie intake was below 1,970 (but the lowering of consumption standard to below RDA is never made clear), while the current 50th Round data showed 74.5% in poverty that is, consuming below 2400 calories.

In 1999-2000 as we have already noted the official estimate gives only 27.1 percent in poverty which, includes only the persons consuming below 1,890 calories (again the further lowering of the consumption standard is never mentioned), while the current data continue to show 74.5percent with intake below 2400 calories (but more poverty depth, with 3 percent more of the population moving below 1800 calories as compared to 1993-94). Thus in 1993-4 the official method left out 37.2 percent of the total rural population who were actually poor, while by 1999-2000 the official method was leaving out 47.4 of the total rural population or around 350 million persons who were actually poor.

There is no theoretically acceptable basis to the official claims of poverty reduction in the 1990s. The basic point is that the method of comparison over time is not logically valid when the consumption standard is being altered, as is being done in the indirect estimates. The consumption standard in 1973-74 was 2400 calories at which 56% was in poverty, by 1993-94 the standard implicit in the official estimate (37% in poverty) was down to 1970 calories, and in 1999-2000 for the official estimate (27%) it was even lower at 1890 calories. By the 60th Round, 2005-06 it is likely to be below 1800 calories and no doubt correspond to one-fifth or less of rural population. We will once more hear spurious claims of further 'poverty reduction'.

How can anyone say how 'poverty' has changed over time using the above method? To give an analogy, when a set of runners are lined up in a row on a circular race track, if the person in the inner-most circle crosses the finishing rope first, it cannot be validly inferred that he has won the race: for the distance run by him is much less than that run by others. For a valid comparison the distance run has to be the same for all, and this is done by staggering the runners. Similarly in the official method the percent of persons below the same, standardized consumption level or levels, are not being compared. Rather, the percentages below un-standardized and changing consumption levels are sought to be compared over time. This is not legitimate, and any statement about decline (or change generally) is not valid. Present day heated debates between the estimators about whether poverty has 'declined' by ten points or two points, when poverty has not declined at all, can be likened to debates over whether the inner-circle runner has 'won'

by one metre or two metres, when the fact of the matter is that he has not 'won' at all, because the premise for valid comparison is violated.

The official rural monthly poverty line expenditure for year 2004 is Rs. 344 or Rs. 11.3 daily, equivalent to 25 US cents at the prevailing exchange rate. This paltry amount will actually buy at most one bottle of water, but it is supposed to cover all expenditure on food, fuel, clothing, shelter, transport, health and education – in short all daily spending on goods and services for one person! Estimates of Indian poverty by some individual academics like A. Deaton (2003a, 2003b) are even lower and imply a poverty-line of 20 US cents expenditure per day, one-fifth of the World Bank's dollar-a-day measure. Obviously, it is not difficult to 'adjust' poverty figures downwards when the consumption level embodied in the poverty line, is depressed to such sub-human levels, for few people actually survive long below these levels – those who are there today are on their way to early death.

Sometimes to justify the indirect method it is argued in an illogical manner that the original consumption norm of 2400 was 'too high'. First, it is not 'too high' because the average intake of those below it works out to less than 1900 calories which is lower than in any other country in the world except the least developed countries. Second, even if it is accepted for the sake of argument that it was 'too high' it does not justify comparing 1999-2000 'poverty' figures which are of all those persons below 1890 calories intake, to those below 1970 calories intake in 1993-94 and below 2400 calories intake in 1973-74.

By all means, let us consider lower norms, in fact take several alternative norms including 2400, but when comparing over time, compare the proportion of population under the same norm at the two points of time – for only then will the comparison be valid. The indirect estimates fail on this simple but essential criterion of comparability over time and those who nevertheless undertake such comparison are committing a logical fallacy – *the fallacy of equivocation.* This is a well known type of verbal fallacy in which a term is used with two completely different meanings in the course of the argument, so the inference is not valid. In this case, 'poverty line' was defined with respect to a nutrition norm, while 'poverty line' as actually calculated is de-linked from the norm, so the inference regarding change (whether rise, fall or constancy) is not valid.

Not only is the official comparison of poverty percentages, and claims of poverty reduction over time, quite spurious; the comparison of the poverty levels of states at a given point of time, is equally invalid. As Table 10 shows, we have a bizarre picture when we calculate the maximum calorie intake levels below which people are designated as 'poor' by the official method in the different states of India. The calorie intake cut-off varies from 1440 only in Kerala, nearly a thousand calories below RDA, to 2120 in Orissa, less than 300 calories below RDA. Officially it is inferred that poverty is much higher in Orissa than in neighbouring Andhra Pradesh.

But how can we possibly validly compare and infer that Orissa is 'poorer' than Andhra, when the 'officially poor' are all the persons with below 2120 calories intake in Orissa but the 'officially poor' are all those persons with below 1600 calories intake in Andhra? Similarly how can official poverty in Bihar, with an implicit calorie norm of 2,010 be compared to the poverty figure for Punjab where the implicit norm is only 1,710 calories? As a teacher if I were to follow the illogical procedure of saying student A is 'better' than student B by applying a 50 out of 100 marks standard to student A who has 53 percent marks and at the same time apply a different, 60 marks out of 100 standard to student B who has 59 percent marks, I would rightly face a court case. Yet our Planning Commission and individual academics are allowed to get away with making patently illogical and false claims on poverty.

What is the reason, the reader might ask, for the official method producing consistently lower estimates than the direct method, and why has the divergence been growing until now, the indirect estimate gives only 27 percent compared to nearly 75 percent by the direct estimate. It is not primarily a matter of the price index used: different price indices do give different results but this accounts for difference of at most 10 percent or so of population, not the difference of 48 percent of population which is actually observed. The basic reason is assuming an invariant consumption basket in the indirect method, held unchanged for three decades, and increasing monetization of the economy. The actual current rural consumption basket which satisfies the nutrition norm, and to which the total monthly expenditure on all goods and services corresponds, costs almost double the price-adjusted poverty line (from Table 8 summarized in Table 9, at least Rs. 570 is required compare to the official Rs. 328).

Table 9: The Rural Poor as Percent of Rural Population in India

	1973-74 %	1993-94 %	1999-00 %	MPCE, 1973-74	Rupees 1993-94	1999-00
Applying Official Definition (those with less than MPCE giving 2400 calories)	56.4	74.5	74.5	49	325	570
Official Estimates & Corresponding	56.4	37.3	27.1	49	206	328
Calorie Intake	2400	1970	1890			

Source: Calculated from NSS Reports on Consumer Expenditure, 50th Round 1993-4 and 55th Round 1999-00. MPCE is Monthly Per Capita Expenditure. Note that base year 1973-74 is the only year the official definition was correctly applied.- in all later years the nutrition norm is diluted.

Rohini Nayyar (1991) who had estimated poverty using both methods and stressed the divergence in the results, had taken some solace from the fact that though poverty levels estimated by the two different methods were drawing apart quite fast, at least they did seem to *move in the same direction* over time. The ranking of the states of India according to their poverty levels estimated using the two methods, was highly correlated: Nayyar found that Spearman's rank correlation coefficient worked out to 0.89 and 0.84 (using the official estimate, and two different direct estimate norms of 2200 and 2000 calories) and was significant at the 1% level.

But in the 1990s this conclusion no longer holds. The poverty levels calculated by the two methods are moving in opposite directions. Spearman's rank correlation taking the poverty ranks of the states by the official indirect method, and by the direct method for 1999-2000, 55th Round data, works out to only 0.236 and 0.075 (using the same two direct estimate norms) and neither is statistically significant at the 1% level.[11] Inspection of Table 10 will tell the reader why this is the case: some of the states with the lowest official poverty, such as Andhra Pradesh, a by-word for agrarian distress, have some of the highest actual poverty.

The rot in poverty studies discussions seems to have set in with neo-liberal reforms in India, particularly in the late 1990s. The Indian Government was eager to claim success for the economic reforms and the pro-reform economists were eager to see poverty reduction in the data. In such a milieu, the inconvenient direct estimates showing high and in some states, increasing levels of poverty were swept under the carpet. Discussion of direct estimation of poverty virtually disappeared from the literature. The dominant trend of discussion focussed on the official indirect method, which, to the great satisfaction of the pro-reform and the World Bank estimators, not only showed very low 'poverty' levels but actual decline in these levels. Not one of the authors using the official indirect method, alluded to the nutritional implications of their own estimates. This meant that they were using and presenting the NSS data selectively, taking only the distribution of persons by expenditure classes to read off the poverty proportion corresponding to their indirect poverty line, while ignoring the associated energy intake figures completely. Such lack of transparency is not acceptable academic procedure. Owing to this lack of transparency, to this day most economists not directly working with the data, and including even those examining research theses on poverty, are not aware that drastically lowered consumption levels over time are the necessary implication of following the indirect method and arriving at low poverty estimates.

[11] "Poverty Estimates in India: A Critical Appraisal" Ramanand Ram, M.Phil Dissertation submitted in JNU, 2004.

Table 10: Official Poverty Percentages for States and Corresponding Maximum Daily Calorie Intake

State	1993-94 Official Poverty Percentage	Implied Calorie Norm	1999-2000 Official Poverty Percentage	Implied Calorie Norm	1999-00 < 2400 cals Poverty Percentage
Andhra Pradesh	15.92	1700	11.05	1590	84.0
Assam	45.01	1960	40.04	1790	91.0
Bihar	58.21	2275	44.30	2010	77.0
Gujarat	22.18	1650	13.17	1680	83.0
Haryana	28.02	1970	8.27	1720	47.5
Karnataka	29.88	1800	17.30	1600	82.0
Kerala	25.76	1630	9.38	1440	82.5
Madhya Pradesh	40.64	1970	37.06	1850	78.5
Maharashtra	37.93	1780	23.72	1760	92.0
Orissa	49.72	2150	48.01	2120	79.0
Punjab	11.95	1810	6.35	1710	47.5
Rajasthan	26.46	2130	13.74	1925	53.5
Tamilnadu	32.48	1650	20.55	1510	94.5
Uttar Pradesh	48.28	2220	31.22	2040	61.0
West Bengal	40.80	2080	31.85	1900	81.0
ALL INDIA	**37.27**	**1970**	**27.09**	**1890**	**74.5**

Source: As Table 8. From the basic data by states, the ogive or cumulative frequency distribution of persons below specified per capita expenditure levels was plotted, and on the same graph the relation of per capita expenditure and per capita calorie intake was plotted. Calorie intake corresponding to the official estimates was then obtained from the graphs.

The critical voices (Suryanarayana 1996, Mehta and Venkataraman 2000, Swaminathan 1999, 2001) which continued to draw attention to the high prevalence of undernutrition and malnutrition, to the secular decline in average calorie intake, to high direct poverty estimates using reasonable calorie norms and which criticized the indirect estimates, have been sought to be silenced by the pro-reform economists, by the simple expedient of ignoring them. Not one

critical author is referred to in the articles by those presenting their indirect estimates at a Conference and later collecting them in a special issue of *The Economic and Political Weekly* (Deaton 2003a, 2003b, Bhalla 2003, etc.).

The critical writers have given cogent and persuasive arguments to suggest why per capita calorie intake should be involuntarily declining in the lower expenditure classes over time. (It is also declining in higher expenditure classes but the problems of the initially over-fed who may be reducing intake, do not concern us at present). They point out that there has been substantial monetization of the economy over the last three decades. Wages which used to be paid in kind as grain or meals, valued at low farm-gate prices in earlier NSS Rounds, are now paid in cash which the labourer has to exchange for food at higher retail prices, and so can buy less of it for a given real income. Common property resources have disappeared over the last three decades: fuel wood and fodder, earlier gleaned and gathered (and not fully valued in the NSS data), now have to be purchased, restricting the ability of the poorer population, to satisfy basic food needs out of a given real income and leading to the observed energy intake decline. Staple grains and fuelwood or other fuels are obviously, jointly demanded since no-one can eat raw grain, and with a given real income a part of expenditure on grain has to be enforcedly reduced to purchase fuel. To this we have to add higher medical and transport costs as state funding is reduced and some services are privatized. The correct thrust of these arguments is that under-nutrition and poverty is very high, affecting three-quarters of the rural population by now, and observed calorie intake decline for the lower fractiles is non-voluntary. By 1999-2000 for the first time average calorie intake in rural India has fallen below average urban calorie intake.

Concluding Remarks

This paper has embarked on a critique of the prevalent analysis and prescriptions regarding food security and poverty, because of two reasons. First, the agrarian crisis is serious and widespread, and has been created by public policies which have been deflationary, combined with trade liberalization when world primary prices have been declining. It is manifesting itself in slowing output growth, rising unemployment, unprecedented income deflation for the majority of cultivators and labourers, enmeshing of cultivators in unrepayable debt, and loss of assets including land, to creditors. Kidney sales and thousands of farmer suicides are only the tip of the iceberg of increasing deprivation, a crucial index of which is an unprecedented fall in food grains absorption to levels prevalent 50 years ago, and decline in average calorie intake in rural India.

Second, the prevalent analysis by policy makers, the Planning Commission and the government, however, can be summed up as an obdurate refusal to face the facts, and an attempt to construct

a counter-factual story which is illogical and in patent contradiction with the trends in the economy. "We must learn truth from facts, or the facts will punish us" (Deng Hsiao Ping) is a dictum that our policy makers would do well to bear in mind. Their theorization interprets severe loss of purchasing power and enforced decline in effective demand for food grains, as its very opposite, as 'over-production' in relation to an allegedly voluntary reduction of food grains intake by all segments of the population, and reaches the dangerous inference that food grains output should be cut back. It refuses to recognize that, while in developed societies, consumers can be separated from a minority who are agricultural producers, in a poor country like India the majority of consumers are themselves rural and directly involved in production as cultivators and labourers, so deflationary policies hit them hard in both these roles of producers and consumers. Price deflation does not benefit even landless labourers since it is part of a process of income deflation which raises unemployment faster than prices fall.

The official refusal to recognize the seriousness of the crisis at the theoretical level, the consequent refusal to restore lost purchasing power through a universal employment guarantee, and the refusal to extend price support to food producers, bode ill for the agrarian crisis, which is not being addressed. The entire false analysis which re-invents increasing hunger as voluntary choice, is today sought to be re-inforced by bogus poverty estimates and invalid claims of decline in poverty. In such a situation it is the duty of all academics and activists who have not lost their sanity, to critique the official analysis and prescriptions, which if carried through will worsen immeasurably the already pitiable condition of the majority of the rural population.

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Prof. Utsa Patnaik
Centre for Economic Studies and Planning
Social Sciences
Room No. 313 SSS II
Jawaharlal Nehru University
New Mehrauli Road
New Delhi 110 067
Ph. No. 011 26704447
Resi. Ph. No. 011 26163541
Email: ppat@vsnl.com; upatnaik@mail.jnu.ac.in
Website: http://www.jnu.ac.in

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Theme: Plants at panick initiation stage with more tillers.

Credit: Rice fields with SRI Paddy, by CSA.

THEME 1

PADDY PRODUCTION SYSTEMS – EMERGING ISSUES

THEME 1.1

PADDY PRODUCTION SYSTEMS - THEMATIC SYNTHESIS

Paddy production systems in the country are diverse covering a variety of growing conditions. These different production systems also have different ways of addressing various inputs required, started from Seed. While these different production systems including rainfed paddy cultivation used to make sustainable use of available natural resources at one point of time, the introduction of green revolution and intensive agricultural systems changed this picture. The aggressive push given to paddy cultivation itself, to the exclusion of other food grains, even in areas where its cultivation was unsuitable, posed many problems. Within paddy, only one particular kind of package, that of irrigated paddy cultivation with the use of 'high-yielding' varieties which yielded only with the application of increasing quantities of chemicals, was pushed everywhere.

Now, the disaster with this uniform, top-down, linear approach to paddy production systems is apparent everywhere – we have come back a full circle. Looking at alternate and sustainable production systems that would benefit the producers has become an urgent imperative. There are several issues of interest and concern that arise in this context.

Seeds, Agri-Diversity and Farmers' Rights

Seeds form a critical part of any production system. Even though there are many agriculture scientists who would like to argue that indigenous seeds are not productive enough, experience of Green Foundation and other organizations in reviving traditional seed diversity shows that this is not so. Experience shows that it is possible to maintain seed diversity on farmers' lands that communities can be organized around Seed, that indigenous seeds can be productive and there is a positive set of ecological, cultural, social, economic and political outcomes from such work. Women can, and have, played a critical role in such processes. Green Foundation's work has also shown that traditional paddy varieties have many superior and desirable qualities and are often times high yielding.

Such seed diversity has constantly been under threat from the macro-policy environment in the country. Much of the erosion of agri-diversity can be attributed to the technologies and the associated package being driven from above. The most recent threat has been in the form of a proposed legislation – the National Seeds Bill, which seeks to regulate the quality of seed in the country. The Seeds Bill, directly and indirectly, provides larger space for the private sector to take over this critical input in agriculture. It should be remembered here that 75% of the seed requirements in India are still met by farm-saved seeds and vibrant systems of seed exchange

amongst farmers. The Bill sidelines the Plant Varieties Protection & Farmers' Rights Act and impinges on issues of ownership over seeds, with the danger of handing over the ownership of farmers' seed wealth to private companies. The Seeds Bill incidentally does not have any provisions related to regulation of seed supply and pricing. One of the biggest problems with the Seeds Bill is its lack of definition of Farmer and a Producer of seed. It is assumed that farmer and seed producer are mutually exclusive entities by the Bill. The Seeds Bill will also prevent farmers from exchanging seeds by asking for mandatory registration and by proposing to lay down the minimum standards of seed quality to be followed by farmers. There are several other problems with the Bill, which will not in any way regulate the quality of seed traded but in fact violate or deny farmers' traditional rights.

Given that Seed is the basic input into farming, it is important that collective efforts are put in to conserve and revive seed diversity on the ground in farmers' fields as well as to build resistance to any moves to erode the diversity further or deny traditional farmers' rights related to ownership, use and exchange of seeds. Such resistance, especially when it comes to defying an IPR regime imposed from above, could best be done by farmers steadfastly holding on to their seeds and using them.

Diversity of Production Systems

The diversity of paddy production systems that existed across the country is an indicator of how, traditionally, paddy cultivation performed unique ecological roles, even though in the modern day context, the green-revolution-promoted paddy cultivation systems are responsible for many environmental disasters being witnessed. The Pokkali system of paddy-aqua cultivation in Kuttanad region of Kerala is a good example for ecological paddy cultivation even as newer approaches like System of Rice Intensification are also trying to recast paddy cultivation systems with positive results.

The Kuttanad system performed a variety of ecological functions – from being home to a variety of aquatic life forms to acting as a flood control mechanism. The paddy fields here also recharged the ground water. The farmers evolved technologies and varieties in consonance with the rigid environmental conditions whereas modern agriculture works the other way round. Farmers here had full knowledge of the inner dynamics of their ecosystem.

HYV technologies, geared to the maximization of only one component at the expense of the natural eco-system, threatened the delicate viability of paddy cultivation here when they spread in the area through an active push from the government. Over the years, the net returns on paddy cultivation became negative and there was a rapid decline in the area of rice cultivation. There was marginalization of traditional fisheries, shrinkage of water area, increased pollution,

lack of flushing and stagnation and decimation of endemic biodiversity that followed. All of this obviously has an impact on the very livelihoods of the farmers.

It was in this context that the Regional Agricultural Research Station took a resource-rich approach to develop a sustainable rice-based farming system. Varieties and practices that are in tune with natural endowments and climatic rhythm were sought to be re-introduced. This included a rotation of aqua-farming with paddy cultivation. An important part of this endeavour was the re-introduction of the *Pokkali* system of paddy cultivation, which includes leaching out of salinity and cultivation of saline-tolerant varieties. After harvesting the rice, prawn cultivation is taken up. A rice farmer and a fish farmer operate harmoniously here. The results have been very good with a reduction of upto 40% in the cost of paddy cultivation [the farmer saves on ploughing, weeding and chemicals] and a 15% increase in yield due to added beneficial organic matter in the field.

The System of Rice Intensification [SRI] originally evolved in Madagascar and now spreading rapidly to many countries, is another case to illustrate that paddy cultivation systems could be different from the mainstream models seen today.

Experience with SRI illustrates once again how the mainstream agricultural research systems focus too much on genetic technology when they talk about productivity improvements and that this is not the most important way of dealing with productivity. The agricultural research systems seem to prefer such research because it can be packaged into a product and made marketable for high profits. However, such an approach ignores the fact that existing genetic potential can be exploited quite a lot just by changing the agronomic practices. Further, the improved genetic potential developed by the research agencies requires a whole package for such potential to be effectively used, including irrigation and chemicals. This is certainly not suitable for millions of farmers who simply cannot afford such a package without adequate public policy support.

SRI, on the other hand, is based on the LEISA [Low External Input Sustainable Agriculture] principles of less external inputs including seed, water etc. It simply re-organises the relation between soil, nutrient and water management with many positive results, including lesser use of water, seed, chemicals and better yields. SRI leaves large spaces for experimentation and innovation unlike Green Revolution which believed that "one size fits all" as a solution. SRI also mitigates some risks in agriculture and offers better control over resources. SRI is an interesting case of 'practice or technology preceding the science'. While SRI is not the only solution for improving paddy production systems – there are other innovations like the *Nawa Kekulama* system in Sri Lanka, for example - it certainly offers many possibilities for

improvement. Wherever it is possible to adopt the SRI principles, there should be support from the government to promote it. It is also possible to extend the SRI principles to other crops and research should be taken up on this front.

There are successful alternatives on other components of the production system too – on pest management, for instance. The National Centre for Integrated Pest Management [NCIPM], set up as an ICAR body, has many positive outcomes to show from its IPM work with basmati rice growers in Uttar Pradesh and Haryana. They found that the pest incidence was markedly lower in the IPM fields as compared to the control plots. Further, yields in IPM were much higher, along with higher net returns for the farmers. Natural enemies' population was higher too, in IPM. Even the market prices for IPM produce are slightly higher, given that chemical residues are lower. There are positive social impacts related to the confidence levels of farmers, their status in the community etc.

Organisations like Centre for Sustainable Agriculture have successes to show from an approach like NPM [Non Pesticidal Management], a step forward from IPM. Here, pesticides are not considered to be inevitable and are completely done away with. This is a knowledge-intensive system where the farmer understands the pests and predators in her/his field and accordingly relies on location-specific practices and natural products. Today, the state government has come forward to support the scaling up of NPM and in 2005 the approach has been adopted on more than 22,000 acres across ten districts of Andhra Pradesh.

Scaling up of Alternative and Organic Production Systems

Some critical issues need to be addressed for the scaling up of the diverse alternative production systems and organic farming. One important issue is that of availability of quality inputs. This includes seeds and products that enhance soil productivity and sustainability and support alternative non-chemical pest management practices. Work needs to focus on improving bio-mass, revival of seed diversity, integration of livestock into the farming system including revival of traditional diversity etc. Another important area to be addressed is the conservation and revival of traditional and alternative knowledge related to sustainable production systems.

There is a clear absence of any rigorous or consistent effort in the ICAR [Indian Council for Agricultural Research] institutions when it comes to organic agriculture. On the other hand, there are many limitations to the trainings provided by NGOs and civil society groups to farmers. Given this context, it might be useful to set up a College for Training in Organic Farming to undertake more competent, comprehensive and sustained trainings at various levels, to spread the message and knowledge of organic farming.

There is also a need for setting up a Clearing House for Information on Organic Farming. This clearing house should be able to address requirements and enquiries of a varied kind. In-house information that exists in some places should be made available to many places through such an institution.

It cannot be over-emphasised that efforts at scaling up organic agriculture would depend a lot on institutions and institutional mechanisms set up at the ground level – this could be any traditional institutions or alternatives set up for the purpose.

It has to be remembered that it is not just rice but a host of other crops, especially in marginalized, rainfed areas, that provide food and nutrition security to people. Dryland millets form a critical part of the food basket here and the traditional cultivation systems of such millets address many ecological, socio-cultural and economic concerns. Alternative production systems should be able to embrace and revive these other grains too.

THEME 1.2

SEEDS AND ISSUES IN THE PROPOSED SEEDS BILL

Vanaja Ramprasad

Farmers have been custodians of seed resources for centuries while Seed in the current day context has become a commodity that is sold by corporations to farmers. Often, seed diversity issues are reduced to a debate on whether such diversity should be in farmers' fields or in frozen gene banks. Agri-diversity has several benefits for farmers and should be maintained in their lands. Indigenous rice, for instance, provides sustainable yields and fodder for livestock even in marginal lands. In Thalli region where Green Foundation works, upland rice plays a major role in providing food security for the rural communities there.

Green Foundation's work began in Thalli region in 1996 with 5 women farmers in two villages and a handful of seeds and now has spread to various parts of Karnataka. Today, 3245 farmers in 291 villages participate in seed conservation programmes in various regions of Karnataka, along with Green Foundation. Green Foundation works mostly with marginalized farmers and women have a central role to play in the organisation's programmes.

There are agriculture scientists who would like to argue that indigenous seeds are not productive enough. However, Green Foundation's experience in the past ten years has shown that it is possible to maintain seed diversity on farmers' lands that communities can be organized around Seed, that indigenous seeds can be productive and there is a set of ecological, cultural, social, economic and political perspectives that drives such work.

Food and livelihood security for farming communities is enhanced by addressing some critical factors. These include seed, sustainable agriculture practices, resource enhancement, optimization of production, participation, organization and value addition. It should be remembered that it is not rice alone but a host of other crops that give food security to people, especially in marginalized, rain fed areas. These include dryland millets of various varieties. Green Foundation has been instrumental in reviving and conserving many such varieties.

Through the programme of Community Seed Banks, a system of maintaining traditional agriculture is being promoted by Green Foundation. It is not just a store of keeping seed for distribution or marketing but a system where farmers plays a key role in creation, maintenance and promotion of local crop diversity. The seed banks have many roles to perform including seed mapping, seed collection, seed treatment, seed storage, seed multiplication, value addition etc. Amongst the various benefits of Community Seed Banks are on-farm conservation of

germplasm, exchange of germ plasm, farmer capacity building, establishment of linkages/ networks etc.

Women play a major role in this Community Seed Bank system. Green Foundation is also involved in various participatory experiments and research projects for crop improvement for optimizing yields and improving the quality of food crops. These include participatory varietal selection, varietal purification, pest management, crop nutrition experiments and so on. SRI, participatory plant breeding and participatory varietal selection are some methods to optimize production. SRI clearly shows that indigenous seed used is the same but changes in production methods can improve both grain and fodder yields. In participatory varietal selection, Green Foundation's experience shows that indigenous varieties have many more characteristics favored by farmers. These local varieties also have lesser incidence of pests and diseases. In Participatory Plant Breeding, seeds are selected by farmers themselves. For instance, Billi Nellu, a local dryland variety used to yield 9 quintals per acre; now, it has increased to 14 quintals per acre.

While conservation and revival of diversity is being promoted at the ground level through farmers and work is on to improve productivity in agriculture, there are many issues of concern regarding the macro-policy environment with regard to Seed and Biodiversity. India had enacted the Biological Diversity Act and the Plant Varieties Protection and Farmers' Rights Act [PVPFR] earlier. These have caused much confusion in an age when one does not even know what a 'community' is anymore. The Biological Diversity Act has given the responsibility of documentation of resources and knowledge to panchayats without any powers. And now, there is a proposed legislation called the National Seeds Bill which seeks to replace the Seeds Act of 1966 and which is sending a clear signal that the seed industry has a dominant role. This Bill even sidelines the PVPFR Act.

The Seeds Bill asks for mandatory registration of seeds. In the PVPFR, individual or firms wanting to register their varieties had to declare the origin of the seed – the Seeds Bill however does not grant any recognition to the conservers or developers of the seed resource. The Bill thus enables farmer varieties to be appropriated by the seed industry for monopoly control. One of the biggest problems with the Seeds Bill is its lack of definition of Farmer and a Producer of seed. 75% of seed requirement in India is met by farmers themselves from farm-saved seed. It is only now that the formal sector is getting stronger. It is assumed that farmer and seed producer are mutually exclusive entities by the Seeds Bill. The Seeds Bill also does not have a provision for compulsory licenses, as in the case of PVPFR. It does not have any provisions for regulating seed supply. It has a dangerous proposal in the form of provisional registration for transgenic varieties pending environmental clearance. There is no clarity on the issue of registration and on multi-locational trials.

There is a repeated reference to barter system in the Seeds Bill which will prevent farmers from exchanging seed. Seed exchange amongst farmers has been an extremely useful system for maintaining high quality seed supply to all farmers and the Seeds Bill seeks to regulate this by asking for mandatory registration as well as by proposing to lay down the minimum standards of seed quality to be followed by farmers. There is also the issue of Seed Inspectors and the power that they have to inspect seed stocks with traders as well as with farmers now. This could lead to much harassment. Further, not all states have a representation on the seed committee unlike the current system. Private organizations would be allowed to take up Seed Certification as per the proposed Bill and this could have dangerous implications.

All the above issues are of serious concern when it comes to the proposed Bill. Even as we continue to work towards promoting seed diversity at the ground level, it is important for all of us to join the fight against the proposed Seeds Bill to protect farmers' rights over their seed resources and agriculture.

Dr. Vanaja Ramprasad
Director
Green Foundation
570/1, "Padmashri Nilaya"
III Main, IVth Cross
N S Palya, BTM IInd Stage
Bangalore 560 076
Ph. No. 26784509
Email: earthbuddy@rediffmail.com

THEME 1.3

THE WEEPING RICE BOWL: SAVE THE HERITAGE RICE TRACT OF KUTTANAD

(AQUA INTEGRATION WITH PADDY FARMING)

Padma Kumar

India has the largest area in the world under rice [42 million hectares] followed by China and rice is the key to food security in India.

If we look back at the history of rice cultivation, productivity of rice has improved significantly in irrigated economies but not in rain fed and upland tracts. There is a strong view that Green Revolution paradigm was inappropriate and has neglected the natural situations in various places. For instance, Kerala is in a unique situation where rice is cultivated in a high rainfall, tropical situation. Here, even as yields have increased by 40%, the cost of cultivation has also increased by 30%. Our forefathers had an in-depth knowledge of their rice production systems and have evolved varieties and practices based on their own conditions. In the current situation when farming has become near impossible and unviable, it is important to look at technologies that integrate diverse enterprises.

In the case of Kerala, there is an undulating topography of upland, midland and lowland areas [valley basin areas]. There is a wide range of altitudinal variation too. Paddy is cultivated in plains and lowlands or in inter-hill basins of midlands and highlands while hills are not terraced as elsewhere. Peasants have used valley bottoms and water logged environments and they have evolved location-specific systems in symphony with the nature.

Paddy cultivation performed unique ecological roles. Paddy provided home to a variety of aquatic life forms. The paddy fields formed the flood plains for the rivers in spate and were used as a cushion to absorb the fury of floods. They also recharged the ground water. The farmers evolved technologies and varieties in consonance with the rigid environmental conditions and not the other way round. They had full knowledge of the inner dynamics of their ecosystem. HYV technologies introduced in such a situation threatened the delicate viability of paddy cultivation. The technology was geared to maximization of one component (grain yield) at the expense of the natural ecological system.

Coming to Kerala's record with rice production, data available shows that the state ranks 8th in rice productivity, while in terms of cost of production, it ranks first. While the productivity of

rice has increased by only 90 kilos per hectare, the overall area under rice production has decreased over the decades.

Coming specifically to Kuttanad, this is an area connected to the eastern mountains through rivers and is contiguous to the Arabian Sea through the Vembenad lake. The rice lands of Kuttanad called *Padasekharams* were created by bunding shallow lake parts into polders. These are replenished by silt from river systems and are suitable for rice.

At the beginning of last century, rice was cultivated here only once in two years. During the 1940s, this was transformed into annual cultivation. Double cropping began in the 1950s with a thrust on intensification of rice cultivation. Kuttanad was then selected as an IADP for the Green Revolution to be introduced. The effort in these developmental interventions has been to find an environment to fit a technology that has been developed and not to develop a technology to suit the environment. As per the analyses made during that time, the connection with the Arabian Sea was considered a problem. A lot of development activity was introduced to address this – spillways and sluices were developed along with submersible bunds. Barrages were constructed to check salinity intrusion. Ring bunds were constructed around polders as protection from flash floods.

Soon, there was an emergence and proliferation of several problems – the granite bunding cut off silt from the rivers. There was a fall in the fertility status of the soil. There was an overuse of pesticides and other chemicals. There was resurgence of pests and other problems. There was an emergence and proliferation of new water weeds. The cost of production increased while prices came down. There was fragmentation of the wetlands into tiny units. The food security of the area was shattered. The ecological outcomes were appalling. There was a disruption of the hydrological balance in the area. Drainage of residues became nearly impossible. There was a rapid decline of fish and entire fish species started disappearing. Migration of other species followed. From 400 tonnes, fish production quickly came down to 20 tonnes in this area. The paddy lands, which were the biggest freshwater reservoirs here, were decimated. The most appalling outcome was the disruption of the physical and biological continuity of the lake with coastal waters due to the physical interventions made. This meant a rapid decline in fish yield and biodiversity. The Giant Freshwater Prawn's annual recruitment is affected by physical obstruction to migration, for instance.

Net returns on paddy cultivation in the 1990s turned out to be negative and there was rapid decline in the area of rice cultivation. Cropping intensity reduced drastically in the area as rice was abandoned. Salinity, considered as "pollution" became the 'critical ecological master factor'. Further, the saline water was considered a problem because the Green Revolution did not have a variety that was saline-resistant.

It was in this context that all rice centric interventions were becoming ineffective as well as counter-productive. The marginalization of traditional fisheries, shrinkage of water area, increasing pollution, lack of flushing and stagnation, decimation of endemic biodiversity etc., were considered the major factors when a shift was attempted by the RARS from a commodity approach to a resource-rich approach. At this juncture, the options in front of groups which wanted to intervene in the current situation were three – either makes rice production profitable through technological tools, or to protect rice cultivation through support price and subsidy incentives, or to develop a sustainable rice-based farming system to make rice farming sustainable, profitable and productive.

The RARS chose the third approach because they found that aqua-friendly conservation can actually be profitable. Varieties and practices that are in tune with natural endowments and climatic rhythm were sought to be re-introduced. An important part of this endeavour was the Pokkali system of paddy cultivation which is an ancient practice. In this system, mounds are made in the land and salinity is leached out. Varieties which are tolerant to salinity are grown on the mounds. Then the seedlings are put into the field. After harvesting the rice, prawn cultivation is taken up. A rice farmer and a fish farmer operate harmoniously here. The rice waste becomes a prawn feed. However, the pokkali system is also degenerating into a shrimp monoculture these days. The RARS discovered that a simultaneous Rice-Fish farming system model had many advantages as well as disadvantages too. Pesticides on HYVs became a problem and rice rotation with a crop of fish was more advantageous as per the farmers. There was a reduction in the pest incidence on rice crop with the rotation. Further, weed control in rice fields was easier.

An important break was realized when stable sized fish could be harvested within 6 months. The cost of paddy cultivation came down as the fish do the ploughing and take up biological control of pests. Organic matter in the soil increased. Water hyacinth also became a feed for the fish.

The area under this system is increasing rapidly now. Farmer-to-farmer spread was the fastest and group fish farming also began in some places. Saving on paddy cost was to the tune of Rs. 2134 per hectare. Organic matter increased from 2.1% to over 3%. Income increased from Rs. 247/- per hectare to Rs. 24057 per hectare.

Analysts feel that the success of this experiment was the result of the partnership between scientists and farmers. Despite higher returns, integration of this kind has happened mostly with smaller polders since this requires intensive management practices. Prawn after rice was found to be more profitable. The sustainability index for the system is high for productivity,

profitability, recycling and diversity. The experience shows that only rice can be the principal crop for Kuttanad. Fish integration makes rice production more attractive. This is a more environment-friendly system. This seems to be the most appropriate land use models considering the agro-ecology of the region.

Dr. Padma Kumar
Associate Professor
Regional Agricultural Research Station
Kottayam 690 523
Ph. No. 0481 2524421
Email: padman@sancharnet.in

THEME 1.4

SYSTEM OF RICE INNOVATIONS (SRI): AN ALTERNATIVE PRODUCTION SYSTEM THAT CONSERVES WATER

G. V. Ramanjaneyulu

In a state like Andhra Pradesh, the government is trying to wean farmers away from paddy cultivation in the name of crop diversification, stating that there is a major water crisis which will get accelerated by paddy cultivation. It is in this context that System of Rice Intensification or SRI assumes a lot of importance. Some proponents have even called it the System of Rice Innovations, since there are many innovations happening within the broad SRI approaches.

It is interesting to note that in most places within the government set up, it is not the agriculture research agencies which are talking about SRI but the extension agencies. Overall, it is mostly civil society-led and farmer-led efforts that are contributing to the spread of SRI. Beginning with Fr Henri De Laulanie's experiments in Madagascar and then spread to other places with the efforts of Dr. Norman Uphoff at the Cornell University [Cornell International Institute for Food, Agriculture and Development], this is an approach to rice cultivation that has now spread to various countries like China, Thailand, Indonesia, Nepal, Cuba, Cambodia, Laos, Gambia, Sierra Leone, Sri Lanka and India.

The mainstream research systems try to focus on genetic technology when they talk about productivity improvements because it can be packaged into a product and made marketable for high profits. However, such an approach ignores the fact that existing genetic potential can be exploited quite a lot just by changing the agronomic practices. SRI, on the other hand, is based on the LEISA principles of less external inputs including seed, water etc. It re-organises the relation between soil, nutrient and water management. Unfortunately, not enough work gets done on this aspect in the mainstream which usually packages agricultural technologies into products instead of focusing on re-organisation of management.

SRI leaves large spaces for experimentation and innovation unlike Green Revolution which believed that "one size fits all" as a solution. SRI also mitigates some risks in agriculture and offers better control over resources. It is more a process of looking at paddy cultivation than a ready-made technology.

The basic concept of SRI rests on very young seedlings being transplanted singly per hill and maintenance of wider spaces between hills. The soil is kept moist and aerated in this system.

Genetic potential is about more tillers from the seed and SRI is management for more tillers. Wider spacing allows for lesser competition for resources as well as lesser incidence of pests and diseases.

The results in this approach are in the form of increased tillering, greater root growth, increased grain filling, water saving, reduced seed rate and seed cost and reduced chemicals. Micro-nutrient deficiencies were also found to be lower in SRI fields. There are several constraints too experienced in the SRI approach – these is the difficulty in relation to good control over irrigation water especially in canal-irrigated systems, need for more skilled labour, more intensive management etc. Experience also shows that there is a wide variation in the performance of SRI approaches by different farmers in different places.

Despite all of this, SRI gives a lot of hope given that the current model of paddy cultivation leaves a lot of ecological footprints. If true costing is done of paddy cultivation, what we eat would turn out to be really expensive. By consuming rice, we consume through the food 19 times more water than what is needed for an average family's domestic consumption, for instance.

SRI is of course not a panacea or solution to every problem related to rice production. It fits into those situations where it can be effectively integrated into the given conditions. For instance, in Andhra Pradesh, better results were seen in Telangana and Rayalaseema where more groundwater-dependent rice is grown than in Coastal Andhra. Some of the issues that need more work and deeper investigations with regard to SRI include:

- In SRI, technology or practice has preceded the science and this approach needs to inform our discussions and debates
- There are some questions left with regard to SRI for scientific understanding [and not for validation]
- Criteria for adoption should be studied better
- The possibility of extending the SRI principles to other crops and other areas of research
- Exploring other innovations in paddy cultivation as well as in other crops – Sri Lanka's Nawa Kekulama is an example.

Dr. G. V. Ramanjaneyulu
Centre for Sustainable Agriculture (CSA)
12-13-445, Street No.1, Tarnaka
Secunderabad 500030
Ph. No. 040 27017735
Fax: 040 27005342
Email: csa@csa-india.org
Website: www.csa-india.org

THEME 1.5

ORGANIC PADDY – THE CHALLENGES OF EXTENSION AND SCALING UP

A.V. Balasubramanian

Scaling up and extension with scarce or no resources is a challenge confronted by many civil society organizations, when it comes to taking forward successful experiences. Careful analysis points out to some problems that need to be addressed and some strength that need to be better harnessed.

Some of the main things needed for organic rice cultivation include:

- Intention or desire to go in for organic rice cultivation
- Land
- Inputs such as seeds, farmyard manure, green manure, bio-fertilisers, products used for crop protection, water etc.
- Cattle
- Knowledge, technology and training
- Certification and marketing
- Support from researchers and extension staff
- Support from government – an enabling policy environment

There are of course various types of Organic Farming that are in vogue at present. Some are driven by certification standards laid down and therefore, there are implications on inputs that are used, practices that are adopted and the ecological principles underpinning the practice. Some are based on social justice principles. Organic is also driven by different philosophies like permaculture, bio-dynamic farming and "do-nothing-farming". The most oft-witnessed case is that of pragmatic mixes – paddy grown for family consumption is often organic for instance, while that meant for the market is inorganic. Another model could be that of all paddy being organic but cross-subsidised by other crops [grown inorganically]. A third model is that of organic agriculture cross-subsidised by other livelihood activities. There could also be models where there is partial fulfillment of criteria and a systematic form of "blending" from inorganic to organic. This could be the conversion phase or allowances made for some inorganic inputs and so on.

Coming to scaling up of Organic, there are some problems related to inputs and their availability, quality etc. When it comes to Seeds, for instance, organic seeds are almost non-existent. Similarly, traditional varieties may not be available through regular seed supply channels. Even information on traditional seeds is scattered, scarce or unorganized. Further, there are more and more legal threats to traditional systems of seed maintenance.

When it comes to Farm Yard Manure, rapidly disappearing biomass poses a big problem. There are limitations of access to forest land and there is a limitation of knowledge related to composting techniques. Coming to Green Manure, with the changing role of state agricultural departments, green manure seed is no longer available through them. Non-availability of good and certified green manure seed is another issue. Compounding this is a disappearing culture of green manuring from our agriculture. In the case of bio-fertilisers, though there are a large number of production units on paper, there are serious problems related to availability. This includes problems of storage and distribution from these units. In Tamil Nadu, there are 25 such bio-fertiliser factories but the supply is outdated and of poor quality.

Cattle have an important role to play in the provision of compost and inputs for crop protection and crop growth. However, there is a great decline in the total cattle wealth. Disappearance of traditional fodder and cattle feed as a result of Green Revolution has been a major factor for the disappearance of cattle too. Further, cattle population is being shifted towards exotic and cross-bred varieties.

Also of great importance is the role of knowledge and technology in organic paddy cultivation. There is lack of specific and precise information at various levels on various matters including spectrum of pests that can be controlled, when, how and so on. Storage and availability of these products is another issue, while lack of training and extension is a serious impediment.

ICAR has done an "Inventory of Indigenous Technical Knowledge in Agriculture" as an All India Coordinated Project and made a mission-mode-compilation of thousands of written and oral sources that they accessed in the project. The aim was to collect, document and validate indigenous technical knowledge. Through a detailed system which sorted the knowledge collected into different categories [checking soil erosion, soil fertility management, pest and disease management, farm implements, post-harvest technology and so on], this compilation has been created. For some selected practices, ICAR also undertook validation tests. However, many people are not even aware of such a compilation. ICAR, after having made a compilation of this sort should take one step forward and integrate ITK (Indigenous Traditional Knowledge) into its main work.

Coming to Trainings needed for upscaling organic paddy cultivation, there is a clear absence of any rigorous effort in the ICAR institutions when it comes to organic agriculture. There are also many limitations to the informal trainings that NGOs and other civil society groups give to farmers. The NGO trainings are not being done competently enough. Given this context, it would be useful to set up a College for Training in Organic Farming. This would be to provide training on an ongoing basis and not just tied to projects. This training could be at various levels for different sets of trainees. The faculty here must be drawn from not just the academia but from practicing farmers and NGOs.

There is also a need for setting up a Clearing House for Information on Organic Farming. This clearing house should be able to address requirements and enquiries of a varied kind. In-house information that exists in some places should be made available to many places through such an institution.

While there are many things that need to established or improved upon to scale up organic paddy cultivation, it is important to recall what's going well for organic also [and not just the constraints and problems faced in scaling up/extension]. Firstly, there is a strong emerging critique on chemical agriculture. Consumers are no longer willing to take whatever is provided to them. There is also hope in the wide diversity of efforts on the organic agriculture front – these are related to efforts on cultivation, on certification, on marketing etc. There is also an enormous amount of innovation happening on the ground. There is a great deal of value in this chaos and diversity of situations. The fact that we have good biodiversity and bio-resources on the ground lends hope too. There exists a great base of traditional and folk practices which can be tapped into. Not all this knowledge is in the oral form but some of it is in the textual form also. Eco-friendliness and a certain feel for sustainability are deeply ingrained into the Indian psyche/culture and it is not always a post-facto thing, unlike in other parts of the world. This is one of the most important positive features that we can tap into.

All of these form a strong basis on which organic agriculture can be built upon.

A.V. Balasubramanian
Centre for Indian Knowledge Systems (CIKS)
No. 30, Gandhi Mandapam
Kotturpuram
Chennai 600 085
Ph. No. 044 24471087/44715862
Email: ciks@vsnl.com

THEME 1.6

INTEGRATED PEST MANAGEMENT (IPM) IN BASMATI RICE – SOCIO-ECONOMIC IMPACT: CASE STUDIES OF UTTAR PRADESH AND HARYANA

D.K. Garg

Pesticide consumption is by far the largest on cotton in India and is the highest in rice amongst the food crops. About 20% of pesticides consumed in this country are on rice. Therefore, there is a need for IPM on rice, especially in the case of Basmati Rice which is exported to other countries. This is because *basmati* rice growers cultivate the variety for commercial purposes and do not hesitate to use more pesticides. However, since most basmati cultivation is export-oriented, it has to be ensured that pesticide residues do not cause rejection of consignments abroad - therefore, the use of pesticides has to be cut down in *basmati*.

Some of the key components of the IPM approach include the fact that it is location-specific; knowledge-intensive; somewhat complex; requires group action; compatible with most farming systems; aims at sustainability and requires intensive training.

National Centre for Integrated Pest Management (NCIPM) is located in ICAR and the major mandate is to develop and popularize IPM technology in crops like rice, pulses, oilseeds, vegetables etc. The NCIPM has taken up IPM in two states – Uttar Pradesh and Haryana, where a village approach was adopted. Two villages were taken up for the work by the institution.

The NCIPM began its work by collecting baseline information from the project villages. Here, Pusa basmati and Taraori basmati were the main varieties in the two villages. The baseline showed that farmers were using pesticides indiscriminately of upto 10-12 sprays per season. The average yields were 45-50 quintals per hectare and the farmers seem to know only the chemical method of cultivation.

It was in this context that IPM was introduced into the villages. IPM had a set of practices like planting of *dhaincha* after wheat, seed treatment with carbendazim, judicious fertilizer application, installation of pheromone traps for yellow stem borer monitoring, release of bio-agents like trichogramma etc. With these measures, the pest incidence was markedly lower in the IPM fields as compared to the control plots [which the NCIPM calls "farmers' practices"]. Yield data also shows that yields in IPM were much higher along with higher net returns. Natural enemies' population in IPM was higher too. The produce fetched slightly higher rates in the markets since the procuring agencies knew that less pesticide was being applied.

The technology adoption index for kharif 2004 shows that practices like seed treatment, use of bio-agents and green manuring are well-adopted. The impact of IPM can be seen on savings on pesticides, reduction in pest outbreaks, increase in natural enemy fauna, consistently higher yields, higher prices for the produce and so on.

NCIPM looks at the effort as empowerment of farmers by adoption of IPM. The farmers have higher awareness now about regular monitoring and can take decisions on what practice to adopt when. They understand the role of crop management practices better now.

Dr. D. K. Garg
National Centre for Integrated Pest Management
Lal Bahadur Shastri Bhavan
IARI Campus, Pusa
New Delhi 110 012
Ph. No. 011 25765472
Email: ipmnet@bol.net.in

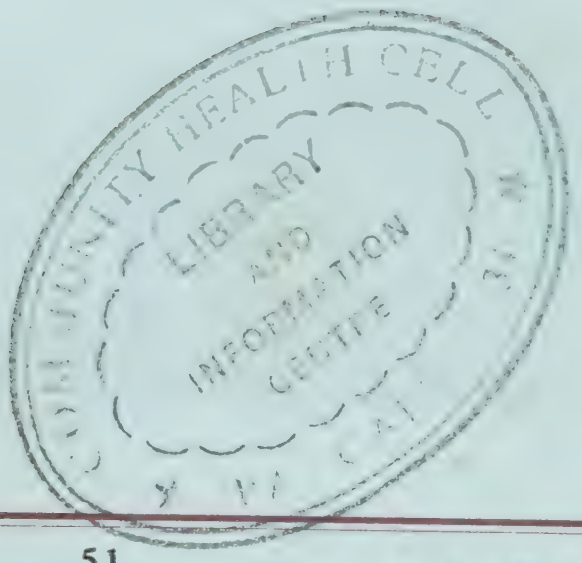

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Photo Credit: Centre for Indian Knowledge System (CIKS) Photo Library, Chennai

Photo Credit:

Theme: Tillering Stage.

Credit: Rice fields with SRI Paddy by CSA.

THEME 2

POLICY AND PUBLIC SUPPORT FOR ORGANIC PADDY AND GENDER PERSPECTIVES IN RICE

THEME 2.1

POLICY AND PUBLIC SUPPORT FOR ORGANIC PADDY - THEMATIC SYNTHESIS

Policy and public support can be understood in terms of agricultural research, extension, credit, provision of other inputs, insurance, procurement/marketing and other mechanisms that go into supporting a particular production system. Such policy support becomes important even in the post-production context.

The support structures and systems have been tilted heavily in favour of paddy cultivation compared to other food grains, towards irrigated belts compared to rainfed areas, towards high-input paddy production systems and so on, especially with the advent of the Green Revolution. While there has been very little support for organic paddy or alternatives other than paddy, there are certainly newer developments which pose a threat to organic paddy spreading on its own or with support from civil society groups. In addition to possible threats, there is also the need for setting up newer and newer support mechanisms like simplified, farmer-centric certification procedures when it comes to organic paddy. It is therefore useful to understand the issues of concern in this area, including some of the looming threats, in addition to appreciate the positive changes taking place at a small scale. These small changes in many ways provide openings for seeking larger support for organic paddy cultivation and marketing.

Threats to Organic Paddy like GM Rice and IPRs

The present policy and public support for organic paddy is quite negligible except for some small efforts by specialized agencies in the field of organic export promotion or credit for organic production and marketing. In fact, policies in support of GM agriculture, including GM rice and in support of IPR regimes are considered to be serious threats to organic paddy.

GM Rice assumes great significance given that rice is an important crop and the staple food of millions of Indians. There are many GE rice varieties which are being experimented upon in India and some of these are almost ready for approval for commercial cultivation – these include insect resistant varieties like Bt Rice; stress tolerant varieties like saline-resistant GE rice; nutritionally enhanced varieties like Golden Rice; herbicide-resistant varieties to address the issue of weeds and so on. It is interesting to note that even as civil society groups are working at the grassroots level with farmers to promote alternatives to intensive agriculture, the biotech industry is promoting GM crops as an alternative too, for many problems that

farmers are confronted with including on production inputs, productivity, quality like in the case of nutrition, markets etc.

While it is acknowledged by many scientists now that the science that drives transgenics is very reductionist and the technology itself imprecise [transgenic scientists cannot explain the complex regulatory systems that are at work in living things where genes are combining in a variety of complex ways to express particular traits in a stable manner], it is interesting to note that in India, most GM research including on rice is being undertaken by public sector research bodies with public funds. Biotech majors are shifting their research and market focus to developing countries like India and in the garb of public-private partnerships – the implications of which do not promise to uphold farmers' interests – there is much work underway. Trials are often undertaken with very little consideration for biosafety and the strategy seems to be to contaminate first and regulate later.

In this context, the proposed biotechnology policy assumes a lot of importance. This policy aims at fast track approvals through a single window clearance mechanism for transgenic agriculture, with more powers vested with the scientist lobby for facilitating quicker commercialization. The policy encourages double standards of non-GM products for exports and GM products for domestic consumption, in addition to relying on the possibility of Co-Existence [of GM and non-GM including organic agriculture]. In India, given the way agriculture is done, co-existence is impossible and contamination is a distinct possibility. It is not just trade interests that should govern our decision to reject GM Rice but also the prospect of losing our diversity with contamination. It should be realized that policies like this pose severe constraints on the spread of sustainable agriculture.

Going hand in hand with transgenic technology is another weapon that agri-business corporations have to seek control over agriculture – this is of Intellectual Property Rights [IPRs]. The concept of Intellectual Property Rights [IPRs] is not something new and is being heard right from the Green Revolution days. Access and Benefit Sharing [ABS] is a recent concept that justifies IPRs and profits. Though IPRs have been discussed in every forum and platform since the last ten years, very little has been done to protect the collective bio-cultural heritage of people. Just a single gene variation is enough to call any variety a new variety in the new regime of ownership and control – a single gene leading to a single trait. What about the rights of the indigenous people who have developed thousands of varieties? The civil society groups working with such people still have not come up with any mechanisms by which the collective bio-cultural heritage of our people can be protected against this onslaught of mapping of genomes, biotechnology etc.

The heritage of seed diversity that India has is invaluable. Just in the CRRI [Central Rice Research Institute] and the Raipur collection [in the Indira Gandhi Krishi Vidyalaya], there are more than 17000 varieties of rice. Dr. Richharia, the scientist who was the main person behind the collection, estimated in his time that another 200000 varieties can still be collected in India. About 1500 of the varieties that he collected from Chattisgarh in the 1970s were higher yielding than the HYVs of that time. These varieties were responsive to the real life conditions of farmers' own fields. The collection is so varied in its genetic base that while some varieties could yield in 210 days others could yield in just 60 days. These varieties were available for all kinds of soil types, varieties that were dwarf as well as 12-15 feet high [floating rice] to suit different conditions. Further systematic identification and collection of varieties can be made. Now, with practices like SRI, probably the yield potential of these varieties can be better explored.

Some Supportive Policies and Programmes

There are some institutions and programmes that are supporting organic agriculture initiatives. For instance, APEDA [Agricultural Products Export Development Authority] has several financial assistance schemes for exporters and these include Market Development, Infrastructure Development, Quality Development, Research & Development and Transport Assistance. There is extension support provided to farmers by the agency in its projects. APEDA has developed an organic trademark and provides certification service at a cost. Through this, APEDA supports exporters to build a brand and markets. These exporters contribute 3 billion dollars' worth of exports in India. The institution has also begun working on quality development in recent times.

Similarly, institutions like NABARD are coming forward with special credit facilities for organic agriculture. Credit opportunities for farmers are present in various forms like land development, crop cultivation, dairy/sheep units, composting, silt application, soil and moisture conservation including drip irrigation and commercial inputs production units like vermi-compost units, bio-fertiliser units etc. This is done as part of NABARD's work to create model projects to convince commercial and rural banks to support such projects. A lot of workshops are conducted by NABARD for bankers to make them understand the concept of organic farming. Under a Government of India programme, subsidies of upto 25% are provided to units that produce organic inputs. National Centre for Organic Farming and NABARD are trying to propagate this through regular banks. For organic farming supported by a technical agency, NABARD supports the farmers for the three year transition period. The interest rates are regular bank rates - now banks are charging 9% for crop loans upto 50,000/-.

There are many challenges to overcome, of course. NABARD does not have enough experience working with annual crops, for instance. On the other hand, APEDA looks only at export markets for organic products instead of domestic markets.

There is also the experience of institutions like BASIX which shows that micro-credit support can be used to promote organic agriculture. For instance, BASIX runs on a structure that incorporates a livelihood triad of Institutional Development Services, Livelihood Financial Services and Agribusiness Development Services for this purpose.

Some Persisting Issues of Concern

Role of Women Marginalized:

Gender roles or gendered division of labour in agriculture in general or in paddy cultivation in particular are neither static nor uniform. These vary depending on the farming system, the agro-climatic situation, the social and class groups in question and so on and have changed with changes in production systems or changes in economy. While the changes from green revolution have been studied a bit, the changes from economic reforms and globalization are not yet understood or analysed properly.

There are many constraints on women's active role in agriculture, including in the alternative production systems and in women gaining control over their resources. When it comes to Marketing, women from all classes have limited or no access to markets. This is linked once again to control over decisions on crops etc. Another set of issues is linked to agricultural research and curriculum. Mainstream research on rice farming or other crops does not pay attention to the role of women. The curriculum in agricultural colleges is not gender-sensitive.

There is an urgent need to mainstream gender issues in agriculture in general and rice cultivation in particular. Policies should be analysed and formulated within a gendered framework. There is a need to lobby for special policies and programmes to address the special needs of women. There is also a need to integrate other policies and programmes that address women in agriculture – for instance, micro-credit programmes, SHGs etc. These usually have an economic rationale and it is assumed that empowerment is a concomitant outcome. However, it may not be so and more conscious work is needed to empower women in their agriculture. In this context, there is an urgent need to identify areas that need further investigation and attention, as a beginning point.

Other Issues of Concern

- We do not have anything substantial in place to conserve, nurture and protect our bio-cultural heritage, not in legal terms or even as programmes. We have not been able to use the potential of our traditional varieties. We have to find ways and means to protect and use our traditional resources and knowledge more effectively.
- While the country is unable to meet minimum nutrition requirements for millions of its people, a new mix of crops is being promoted – even if it under organic farming – for exports. It is time that the government of India pushed for standards and support mechanisms for local and domestic markets, which match those being implemented for export markets.
- When it comes to agricultural credit, while on the one hand some of the most important innovations and changes are being made for the first time [including on the conditions for credit and so on] to overcome the anti-agriculture bias that exists in the credit systems, there is still a long way to go. The mainstream credit systems are still closely linked to scales of finance that rest on recommendations of package of practices put out by agriculture universities. These practices are not supportive of organic farming. Credit as well as insurance is still closely linked to particular crops and particular technologies. A lot more needs to be done to recast these systems.
- A point to note here is that more institutional credit for organic farming might itself not constitute the solution. In fact, organic farming might actually have lesser need for credit and that is one of the reasons why it needs to be promoted.
- Coming to micro-credit programmes, it is often seen that many women's groups are being burdened with a surplus of funds pumped in, with very rigid terms and conditions. Unless micro-credit programmes are recast too, they may not be supportive of organic farming efforts.
- The policy frameworks that we have right now do not talk about Food Sovereignty. A concept like Food Sovereignty perforce addresses the issue of rights over resources like land, water and forests. Unless the issues of landless agricultural workers and their rights are addressed, no system like organic farming is complete either.
- To address the issues of landless agricultural workers, any alternative production systems that we develop must not be focusing on labour saving and labour reduction in favour of farmers. We should think of labour-intensive and sustainable technologies and find ways of such systems benefiting farmers as well as workers. One method would be get scales of finance to be recast where all external products would be replaced with subsidization of labour costs for the farmer – this would benefit the farmer even as it would provide more employment opportunities for agricultural labour.

- Even if we address issues related to production and support for alternative production systems, it is to be remembered that with the fall of state marketing and procurement mechanisms, the prices that farmers get would be unfair, given that global prices are kept artificially low with heavy subsidies elsewhere.

There is also a problem with positioning paddy as a solution, since paddy cultivation as we have known it has been extremely destructive. In rainfed areas, it has changed the whole system of production. There is a process of *sanskritisation* that accompanied rice whereby local coarse grains which are actually more suitable to the local growing conditions and are nutritiously superior, started to be perceived as inferior grains. There is a lot more work that needs to be done on rainfed farming, to think about appropriate interventions at various stages of the chain to improve the livelihoods of farmers and agricultural workers.

THEME 2.2

GENETICALLY MODIFIED (GM) RICE

Divya Raghunandan

India now has GM crop cultivation in the form of Bt Cotton. The country still does not have any GM food crops permitted for commercial cultivation though there are various stages of experimentation happening in different GM food crops too. GM Rice assumes great significance given that rice is an important crop and the staple food of millions of Indians. It is interesting to note that even as civil society groups are working at the grassroots level with farmers to promote alternatives to intensive agriculture, the biotech industry is promoting GM crops as an alternative too, for many problems of our times. GE technology is being positioned as a solution to a variety of problems farmers are confronted with, including on production inputs, productivity, quality like in the case of nutrition, markets etc.

There are many GE rice varieties which are being experimented upon in India and some of these are almost ready for approval – these include insect resistant varieties like Bt Rice; stress tolerant varieties like saline-resistant GE rice; nutritionally enhanced varieties like Golden Rice; herbicide-resistant varieties to address the issue of weeds and so on.

If one looks at the science that drives transgenics ["DNA in a cell will lead to RNA will lead to protein"], it is very reductionist which assumes that one gene is responsible for one protein. However, the reality is different. Transgenic scientists cannot explain the complex regulatory systems that are at work in living things and genes are combining in a variety of complex ways to express particular traits in a stable manner that is not yet understood by humankind. GE cannot explain the unexpected and unpredictable results seen in Bt Cotton for example. Bt Cotton, the experience of which we have in the country, has shown much unexpected results and has been extremely uneven in its performance. The scientists cannot explain why the toxin works on non-target organisms also. All in all, GE is an imprecise and unpredictable technology.

Globally, there is only one GE rice variety which has been approved for commercial use so far, that too in the USA. This is the Liberty Link Rice which is herbicide-tolerant rice, designed to be resistant to glufosinate, a herbicide. Monsanto and Syngenta had produced this variety – however, not a single acre has been planted so far with Liberty Link Rice, as far as available information on this goes. Europe and Japan have completely closed their GE import markets and therefore, Americans are not planting their herbicide-tolerant rice even though it has been approved for planting.

Given that major markets in Europe are closed to their products, the main MNCs in the GE industry/'life sciences industry' like Syngenta, Monsanto, DuPont and Bayer are eyeing the markets in Asia and Latin America for their profit-making ventures. Huge shifts in their research investments can be seen being made to these locations. In India, the National Biotechnology Policy, which was apparently created with inputs from Monsanto is an example for the favorable climate they are creating for themselves here.

In Asia, everyone seems to be looking at China as a yardstick for many things. In China, the main varieties that are closest to commercialization are Bt Rice [insect resistant] varieties. Here, in early 2005, there was a big scandal when Greenpeace discovered through some random tests on seeds available in the commercial market that Bt Rice is being grown illegally and in a clandestine manner for nearly 2-3 years now! There was an obvious leakage or contamination from field trials in Hubei province and GE rice was leaked into the market. This was done much before the National Bio-safety Committee gave its approval for commercial cultivation of Bt Rice in China. Chinese government has subsequently begun an investigation into the whole affair and stalled the GE rice for the time being. However, the industry and scientists are known to use this as a strategy everywhere – contaminate first and then push for regulation.

The Indian GE experiments are on similar traits – insect resistance, herbicide tolerance, saline-resistance, Golden Rice etc. It is predicted that Bt Rice would be ready for commercial cultivation by the end of 2006 and could enter the markets soon after. Therefore, Bt Rice against stem borer could be a reality soon. Disease resistance to bacterial blight could follow and 2 years down the line, the saline-tolerant GM Rice varieties from M. S. Swaminathan Research Foundation also could be ready for commercial cultivation, going by the pace at which experimentation is on.

When it comes to Golden Rice [beta-carotene enriched GE rice] which is claimed to be the icon for "science with a human face" with its solution for hunger and malnutrition, even though the controversial variety has just seen its 5th anniversary, it is not a reality anywhere.

A dangerous trend to be noted here is the fact that all the research on GE Rice is happening in public sector research institutions. The private companies involved in such research are not to be seen in such research. There are many organizations like Rockefeller Foundation and Cornell University that are in partnership with ICAR bodies for transgenic research. NGOs like ISAAA which get massive funding from corporations are using all the PR tools at their disposal to promote GE in the minds of the general public and policy makers. Public-Private Partnerships in such research and use have to be better understood to see who stands to gain ultimately and what are the terms and conditions of such partnerships. The IPRs' regime involved with GE varieties is something that needs to be better understood.

It is worth studying the existing regulatory systems and mechanisms in the country related to transgenic crop varieties to understand what else is going wrong. While the current 3-tier regulatory system is seen as an impediment by the industry, partnership with public sector research bodies helps the companies bypass a lot of regulatory complications.

The proposed biotechnology policy that has recently been drafted by the Department of Biotechnology, Ministry of Science and Technology needs to be discussed again since it can pose a major constraint on the spread of sustainable agriculture. This policy aims at fast track approvals through a single window clearance mechanism for transgenic agriculture. More powers are going to be vested with the scientist lobby for facilitating quicker commercialization. The policy states that important exportable products like basmati rice should not be genetically modified since the export markets and the present edge that non-GM exports from India have, have to be protected. This is in effect a practice of double standards on Indians.

The policy talks about co-existence of GM and non-GM crop cultivation. It is proposed that certain varieties or certain regions like Chattisgarh or the North East would be protected from GM technology. However, crops cross-pollinate. The contamination could be both biological as well as physical where seeds and other products just get mixed up given that India has a vibrant farmer-to-farmer exchange system and very little regulation on ground. Contamination is therefore a distinct possibility and co-existence impossible. Currently, the rice exporters' lobby has put a lot of pressure on the government and they are saying No to GE rice of any kind.

It is not just trade interests that should govern our decision to reject GM Rice but also the prospect of losing our diversity with contamination. It is interesting to note that GE crops are being promoted as an IPM/organic agriculture strategy, with such recommendations emerging from eminent personalities like Dr. M. S. Swaminanthan. It should be realized that GE Rice is a real threat to organic rice and the possibility of GE Rice being approved for commercial cultivation in India is not too far away unless there is strong resistance put up collectively.

Divya Raghunandan
Greenpeace
No. 3360, 13th B Main, HAL IInd Stage
Bangalore 560 038
Ph. No. 51154861/ 98455 35406
Fax. No. 51154862/Email: draghuna@dialb.greenpeace.org

THEME 2.3

INTELLECTUAL PROPERTY RIGHTS (IPR) ISSUES IN RICE

Jacob Nellithanam

Chattisgarh is famed as the Rice Bowl of India – the Jeypore tract of Chattisgarh/Orissa is specifically well-known for its thousands of rice varieties grown there. In the 1970s, Dr. Richharia, an agriculture scientist, was asked to do something more at the ground level when he questioned some agricultural policies of the country at that time. He started going around the tribal hamlets of the area and met with the farmers and found that the wisdom of the tribals there could be the foundation of future agriculture. Dr. Richharia felt that the diversity and productive potential of the rice varieties of the tribals of Bastar can feed all of India and possibly, the whole world. He made a systematic collection of nearly 20000 rice varieties from this region. Protecting these rice varieties from profit-seeking corporations and their allies has been a matter of great concern for the farmers and sustainable agriculture activists of the region. The now-infamous deal between Syngenta and the Raipur Agricultural University [IGKV] is a case to illustrate.

One of the most powerful tools that the agri-business corporations have, to claim ownership on these resources is that of Intellectual Property Rights. The concept of Intellectual Property Rights [IPRs] is not something new and is being heard right from the Green Revolution days. Access and Benefit Sharing [ABS] is a recent concept that justifies IPRs and profits.

Though IPRs have been discussed in every forum and platform since the last ten years, very little has been done to protect the collective bio-cultural heritage of people. Just a single gene variation is enough to call any variety a new variety in the new regime of ownership and control – a single gene leading to a single trait. What about the rights of the indigenous people who have developed thousands of varieties? The civil society groups working with such people still have not come up with any mechanisms by which the collective bio-cultural heritage of our people can be protected against this onslaught of mapping of genomes, biotechnology etc.

Let us take the example of saline resistant GE rice. Our own scientists have announced that they have developed saline resistant rice from transferring genes from mangrove species to rice. We have a collection of more than 30 saline resistant varieties traditionally. However, a whole policy and legal framework has been created to facilitate the work of these scientists rather than to protect the traditional varieties. In such a situation, how will the collective, intellectual, bio-cultural heritage of people who have been the original developers of these resources be ensured?

And now, through newer tools like the proposed Seeds Bill and so on, people are being prevented from using their own resources within their environment. As a nation, we seem to have facilitated mechanisms and legal frameworks that ensure the alienation of livelihood resources from people.

There should be a strong demand put forward that these resources that have been developed and conserved by people rightfully belong to them. The Biological Diversity Act that emerged from the CBD talks about these resources being the property of the sovereign state. Just in the CRRI and the Raipur collection, we have more than 17000 varieties of rice. Dr. Richharia estimated in his time that another 200000 varieties can still be collected in India. About 1500 of the varieties that he collected from Chattisgarh in the 1970s were higher yielding than the HYVs of that time. These varieties were responsive to the real life conditions of farmers' own fields. The collection in so varied in its genetic base that while some varieties could yield in 210 days others could yield in just 60 days. These varieties were available for all kinds of soil types, varieties that were dwarf as well as 12-15 feet high [floating rice] to suit different conditions. Further systematic identification and collection of varieties can be made. Now, with practices like SRI, probably the yield potential of these varieties can be better explored.

The Indian government does not seem to see the value of such diversity or about protecting these varieties as the case of US patents on basmati rice has illustrated. On the other hand, most varieties developed by the formal sector breeding institutions cannot match the traditional varieties the farmers have evolved on many parameters.

It is in this context that forces and technologies that are inimical to sustainable agriculture be identified and ways evolved of protecting our heritage.

Jacob Nellithanam
Richharia Campaign
B-3(0rI-4), Parijat colony,
Nehru Nagar, Bilaspur-495001
Chattisgarh.
Email: jack_nel@rediffmail.com

THEME 2.4

GENDER ROLES AND ISSUES IN RICE – IMPLICATIONS FOR POLICY

V. Gandhimati

Gender roles or gendered division of labour in agriculture in general or in paddy cultivation in particular are neither static nor uniform. These vary depending on the farming system, the agro-climatic situation, the social and class groups in question and so on.

Gender roles have been changing mostly either because of changes in production systems or changes in economy. Two kinds of major changes can be seen from 1930s onwards to the 1980s – these are related to market economy and green revolution. The changes have not been uniform and the impact of the changes has not always been bad for women. The second set of changes is due to economic reforms and globalization. These impacts have not been completely understood or analysed.

There are quite a few gender-related concerns when it comes to issues of production, some of which have been listed below:

- Women have unequal access to resources like land, water, credit, seeds etc.
- Women contribute substantial amount of labour in rice production and in agriculture in general. However, with the introduction of machines and chemicals, their work is undervalued and undermined.
- Women's income amongst workers has decreased – their labour availability/employment opportunities have decreased
- Women in farm families possessed a lot of knowledge – about seeds, production, processing etc. Gradually their knowledge has been replaced and external knowledge is being given as packages. Such external knowledge is not always scientific but is being provided as solutions to problems in a quick fix manner
- Women have special skills – transplanting, harvesting etc. – these have no value now
- Women have no access to new technologies – it is a male-oriented extension system that is in place, run predominantly by male extension workers who pass on new technologies and new knowledge to men, excluding women
- Even if women are involved, it is usually because there are seen as more amenable.

Beyond production, in the processing sector, earlier, there used to be small scale processing. Increasingly, hulls are being replaced by modern mills. While it may have reduced drudgery for women, all value addition now goes to the mill sector and other traders.

When it comes to Marketing, women from all classes have limited or no access to markets. This is linked once again to control over decisions on crops etc.

Another set of issues is linked to agricultural research and curriculum. Mainstream research on rice farming or other crops does not pay attention to the role of women. The curriculum in agricultural colleges is not gender-sensitive. In certain states and even under some central government schemes, there are some special targeted programmes for women, with women extension workers. The stated objective even here is to improve the production and yield. The 5-6 such projects that exist have all been supported by external donors.

When it comes to agricultural policies that affect rice production, such policies are not based on gender analysis. At best, women are mentioned along with the 'landless, the poor and the tribal people'.

There is an urgent need to mainstream gender issues in agriculture in general and rice cultivation in particular. Policies should be analysed and formulated within a gendered framework [including an analysis of all existing policies and programmes]. There is a need to lobby for special policies and programmes to address the special needs of women. There is also a need to integrate other policies and programmes that address women in agriculture – for instance, micro-credit programmes, SHGs etc. These usually have an economic rationale and it is assumed that empowerment is a concomitant outcome. However, it may not be so. Further, empowerment is not the same as equality.

Often, when discussing the issues related to women in organic paddy cultivation etc., it is said that it might cause more work for women and could increase their workload. However, there are many more issues than this and these have to be studied carefully.

Dr. V. Gandhimati
Freelance Consultant, Bangalore
No. 333/5, 23rd Main, 5th Phase
J P Nagar
Bangalore – 560 078
Ph. No. 26490310/04175 242380
Email: v_gandhimathi@vsnl.net

THEME 2.5

EXPORT AND CERTIFICATION SUBSIDIES FOR ORGANIC AGRICULTURE

T. Sudhakar

The objective of Agricultural Products Export Development Authority (APEDA) is to develop and promote export of agricultural and processed food products covered under APEDA's purview; and to project the image of Indian agricultural and processed food product exporters as reliable suppliers of quality produce. APEDA has several financial assistance schemes for exporters and these include Market Development, Infrastructure Development, Quality Development, Research & Development and Transport Assistance.

The regional office in Hyderabad of Agricultural Products Export Development Authority (APEDA) works in 3 states of India – Andhra Pradesh, Chattisgarh and Orissa. The Hyderabad office was established in 1997.

APEDA supports exporters to build a brand and markets. These exporters contribute 3 billion dollars' worth of exports. APEDA's role is to create rural employment and valued addition. It provides around 10-12 crores of rupees for infrastructure development. The institution has begun working on quality development in recent times. APEDA also has a good extension system. Because of all of this, APEDA's exports have "zero rejections" of its consignments. The agency also has a residue monitoring systems in the form of laboratories which use latest technologies to count residues upto parts per billion.

APEDA has tried to address various issues along the chain including looking at micro-irrigation, cold chain technology, warehousing, transport network etc. The agency has developed protocols for 25 fresh fruits and vegetables. On APEDA's products, diet and nutrition issues are mentioned on the labels clearly. APEDA also helps create Designer Food, with the help of a designer studio in Paris.

APEDA's endeavour is to make farmers understand that just using organic fertilizers does not constitute organic farming and that Organic Agriculture is a much bigger concept. It has developed an organic trademark and certification from APEDA costs around two lakh rupees.

APEDA believes that Indian agriculture needs to move from its Green Revolution framework towards an ever-green revolution.

T. Sudhakar
Regional In-Charge
Agricultural Products Export Development Authority (APEDA)
8th Floor, Chandra Vihar Building, M.J.Road
Hyderabad - 500 001
Telephone: +91-40-24745940
Fax: 91-40-24745947
E-mail: hyd_apedahyd@sancharnet.in

THEME 2.6

CREDIT POLICIES & OPPORTUNITIES FOR ORGANIC AGRICULTURE

Venkatesh Tagat

The potential of organic markets for India is very high. The global market for organic foods is worth 17.5 billion dollars at present. India has just 0.03% of its land under certified organic and ranks 16th in the world in certified organic landholdings.

While that is the case at the global level, at the local level, Andhra Pradesh has become well known because of the plight of its farmers – large scale suicides have been committed by farmers here mainly because of the deep debts that they are caught in. Despite many announcements, significant changes have not been achieved on the ground. In this scenario, NABARD is attempting to make a few changes in the credit policy framework to support organic agriculture.

Credit opportunities for farmers are present in various forms like land development, crop cultivation, dairy/sheep units, composting, silt application, soil and moisture conservation including drip irrigation and commercial inputs production units like vermi-compost units, bio-fertiliser units etc. Out of these, crop cultivation support and input production units are gaining importance.

Most of the work at NABARD is around giving money for financial institutions as crop loans. NABARD also tries to create model projects to convince banks to support such projects. A lot of workshops are conducted for bankers to make them understand the concept of organic farming. As a promotional agency, NABARD also undertakes Area Development Schemes like in Khammam in Andhra Pradesh. NABARD has an assistance scheme where village communities, especially village youth, are funded to take up projects under Rural Entrepreneur Development Programme. These enterprises usually produce organic inputs to meet the local demand.

Some funds are spent on studies under environmental protection. Proposals by small NGOs, KVKs etc., are also supported if they are trying to popularize organic farming. NABARD finances banks to lend to this sector. Under a Government of India programme, subsidies of upto 25% are provided to units that produce organic inputs. National Centre for Organic Farming and NABARD are trying to propagate this through regular banks.

Banks have their own Norms of Finance that they follow. The Scale of Finance is fixed at the district level for crop loans based on the average cost of cultivation and banks follow this.

NABARD, on its part, has been monitoring to see that these scales of finance are regularly reviewed. The major role here is of the agriculture department when decisions are taken at the district level. These scales of finance are usually fixed amounts and vary from district to district. NABARD has encouraged bankers to give it as a range – Rs. 9000 to Rs. 16000/- in the case of last year, for example.

If there is some export-oriented activity, then the details are looked at carefully. There will be a project appraisal, changes made where needed and then support extended. For organic farming supported by a technical agency, NABARD supports the farmers for the three year transition period. The interest rates are regular bank rates - now banks are charging 9% for crop loans upto 50,000/-.

Coming to some of the challenges faced by NABARD in this area, it has to be admitted that NABARD's experience has been mostly with crops other than paddy – the agency finds it difficult to associate with annual crops and some efforts are on in the case of Cotton. NABARD found that the transition was quite difficult. High cost of production and lack of distribution of bio-inputs were other problems experienced here.

Some of the strategies that NABARD is using to popularize organic farming include:

- Creation of awareness among various institutions
- Education of growers – Involvement of NGOs/VVVs [farmers' clubs facilitated by the agency]
- Innovative credit practices such as staggered credit
- Deployment of credit for input units
- Development of domestic markets
- R & D geared up to develop suitable technology for organic cultivation
- Adoption of Cluster approach
- Contract farming
- Crop diversification & mixed farming
- Establishment of local certification agencies
- Development of post harvest infrastructure with quality testing facilities
- State level organic farmers' body

Venkatesh Tagat
General Manager, NABARD
RTC Cross Road, Hyderabad 500 020
Ph. No. 040 27644729
E-mail: hyd2_nabhyd@sancharnet.in

THEME 2.7

ACCESS TO CREDIT – ROLE OF MICRO FINANCE INSTITUTIONS (MFIs)

Ratnakar

The Mission of BASIX is to promote a large number of sustainable livelihoods, including for the rural poor and women, through the provision of financial services and technical assistance in an integrated manner. BASIX has also sets its mission as yielding a competitive rate of return to its investors so as to be able to access mainstream capital and human resources on a continuous basis.

There are several organizations and legal entities that BASIX comprises of, with the same mission – that of livelihood promotion. These include R & D companies, holding company, financial services company, banking services etc.

The operational design of BASIX rests on the provision of multiple set of services to poor rural households from under one umbrella. A livelihood triad of Institutional Development Services, Livelihood Financial Services and AgriBusiness Development Services is the main structure. Earlier, the organization had only livelihood financial services but now it enters from any part of the triad to improve the livelihoods.

Institutional Development Services consist of

- Producers' Groups
- Capacity Building
- MIS Development
- HRD and
- Collaborations.

Livelihood Financial Services consist of

- Credit
- Insurance
- Savings and
- Money Transfer.

Agri/Business Development Services consist of

- Productivity Enhancement
- Risk Minimisation
- Market Development and
- Value Addition.

IPM practices have been taken up by BASIX in an experimental village in Adilabad district under Agri/Business Development Services. The producers' groups formed here with 51 members have been able to break the shackles of money lenders and dealers and have had a major impact in and around that village.

A collaborative polygon with people's organization, credit, training and extension, output market, research & development and input supply addresses the issue of livelihoods in the BASIX model. BASIX's work rests a lot on drawing in several partners into the programme. An example is the dairying programme in Nizamabad district along with *Gram*.

BASIX also set up the Indian School of Livelihood Promotion. A variety of loan products are offered by BASIX, supplied through direct as well as indirect lending. The experience of BASIX and its structure shows that the scope of credit support through MFIs for organic agriculture is quite high.

Ratnakar
Bhartiya Samruddhi Finance Ltd. (BASIX)
501-502, Nirmal Towers
Dwarakapuri Colony, Punjagutta
Hyderabad – 500082, A.P
Tel: 040 – 26618846
Email: basix@hd1.vsnl.net.in

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THEME 3

PROCESSING, VALUE ADDITION AND MARKETING OF RICE

THEME 3.1

PROCESSING, VALUE ADDITION AND MARKETING OF RICE - THEMATIC SYNTHESIS

Paddy farmers in many locations find that their production systems are losing productivity even as their resources are getting eroded and contaminated. While grappling with sustainable production systems has been a challenge, getting remunerative prices in the face of increasing costs of cultivation has been a bigger challenge. Even in the civil society work happening on alternatives to conventional paddy cultivation, much attention has been paid to production systems and very little to processes after production. Some analyses point out that more and more margins in the production and supply chain lie in stages beyond production and there has been very little systematic work on ensuring these margins tilting towards the producers.

There are some precious lessons to be learnt from some civil society and farmers' initiatives on this front. These processing and marketing initiatives have taken different institutional shapes like an informal platform for sales and purchase [cooperatisation of farmers and consumers] in the case of an Organic Bazaar initiative run by Thanal in Kerala, a farmers' cooperative for procurement, processing and sale to traders in Andhra Pradesh supported by Cooperative Development Foundation, a Fair Trade initiative in the case of Navdanya and a Producer Company in the case of IOFPCL.

It is also important here to understand the post-production processes involved in converted paddy into rice, especially using sophisticated rice mills. The process of paddy processing is quite tedious. Paddy has to be cleaned first. The husk has to be removed then, using a de-husker. The paddy remaining in the de-husker has to be removed by a separator. Brown rice has to be polished and graded. In the case of organic rice, black rice has to be removed using electronic colour sorting machines. There are technical, organisational and managerial aspects which are critical in paddy processing.

Once the mill is set up, procurement, storage, processing, pricing and marketing have to be done properly. Very few NGOs might be able to handle all these functions, especially pricing and dealing with price fluctuations. If there is a demand in market for organic rice and if there is a supply of organic rice, it is very likely that small-scale entrepreneurs will come up to take a place in the procurement, processing and marketing stage of the supply chain. Such entrepreneurs will very likely have better skills than NGOs in handling the situation.

The trend in terms of mills is towards larger and larger and sophisticated machines which require heavy capital investment. Just the processing technology being used excludes small producers and their groups from entering this stage of the paddy chain. There are some examples here and there of small- and medium-sized hullers and mills that could be run as viable enterprises by small groups to deal with smaller quantities of paddy.

While this is the case with processing, the current marketing models are also against farmers. The present marketing models are also such that they do not hold the producers or traders or consumers accountable for their practices and behaviour. Conventional values of trade assist middlepersons to take the cream of the earnings while leaving the farmers poor. The trade puts immediate profit above environment and sustainability.

The Organic Bazaar proposes an alternative to the current paradigm of markets. The Organic Bazaar at Trivandrum started in November 2003 as a monthly event with three local producer groups of vegetables, two rice farmers and 85 registered consumers. After more than one and a half years, the Bazaar has 60 local producers and 350 consumers. There are more than 100 varieties of organic products in the Bazaar at present.

The concept of this Organic Bazaar is based on four basic principles. The first principle is environmental stewardship, the stewardship of the people who work on sustainable agriculture and promote environment-friendly methods in agriculture. Second basic principle is accountability, third is Fair Trade and the last is alternatives to the current marketing systems.

There are several opportunities that the Organic Bazaar provides especially to small farmers. For many of the producers who are not conventional farmers, this bazaar provides an additional source of income. Hitherto, their little landholdings were being left under-cultivated because of several constraints including soil degradation. There is a hope to improve land utilisation through this process of organic farming. Here, the prices are steady unlike in the regular market, as the Bazaar is untouched by the market outside and other external fluctuations. The trade in the Organic Bazaar depends on mutual trust, understanding and cooperation. It does not need any certification. At least 40 - 50 consumers come regularly to the Bazaar. Often the consumers directly talk to the farmers and ask for something they want. The consumers have developed trust in the producers and have started believing these producers. In this manner, the organic bazaar is trying to promote a good relationship between consumers and producers. Making the bazaar self-sustaining, especially after the external financial support stops is a challenge that still needs to be worked out.

Coming to Navdanya's Fair Trade initiative, its genesis lies in Navdanya's attempts to reinvent the traditional market systems so that the current exploitative and unfair market structures can

be replaced with co-operative and co-productive Fair Trade. For Navdanya, nature, farmers and consumers are co-creative and co-productive and not isolated and unconnected entities. Navdanya believes that this partnership is necessary for the care of earth, justice for farmers and health of consumers. While food needs of rural households come first, followed by the community's needs and then the national market, there is also a lot of scope for the producers in international Fair Trade markets. Fair Trade should not in any way lead to soil erosion, water pollution and depletion of biodiversity and create food insecurity at the community level. It should not lead to the deprivation of peoples' food rights and their income opportunities. Navdanya began its work with domestic fair trade but had to take up international fair trade as the farmers could not find market for their surplus. It is mostly some European agencies which provide the fair trade markets for the Navdanya farmers.

It is important to note here that even though policies favour exports from the country and in an era when export business has become the most lucrative business in India, small farmers do not seem to benefit from the situation. Several policies promote incentives for such exports. However, most of these benefits go to large export houses rather than poor farmers.

Another example worth looking at is the Paddy Farmers' Cooperatives [PFCs] supported by Cooperative Development Foundation in three locations in Warangal and Karimnagar districts of Andhra Pradesh. The farmer-members started these cooperatives out of a real need. The farmers did not want to go through all the middle persons in the marketing chain, who often cheat, do not pay on the spot and sometimes buy the produce from farmers and vanish into thin air when they fail to transact profitably in the market. If the farmers do not want to depend on middle persons, the only option left is to go directly to the market. There, they have to pay commission to the brokers. The buyer would cut 2 kilos per quintal in the name of dust and broken paddy. They should bear transportation and hamali charges etc. All of this amounts to 35 rupees per quintal. Additionally the farmer has to stay at the market place all the time.

If they want to take the paddy directly to rice millers, that is another story. The millers don't prefer individual farmers since the quantities are very small. They find it cumbersome to weigh and measure the smaller quantities. They prefer the middlemen/shahukaars who can gather the produce from different farmers in the village and offer it to the millers in larger quantities. Of course, there is indebtedness and necessity for ready cash that force the farmer to sell paddy to middlemen.

It was because of these and several other problems in marketing that the farmers went on to form cooperatives. While the rationale for setting up the Cooperatives is clear, it is interesting to note that these Cooperatives failed to function effectively. One of the main reasons seems to

be that the cooperatives began the venture with huge investments. While these investments made out of loans required interests to be paid, the investments failed to pay off because there were successive drought years in the area. Consequently, paddy production in the area went down drastically. Rice started coming in from other areas and prices started falling for the paddy that the PFCs had procured. Further, too much speculation in terms of quantities procured and stocked beforehand meant losses.

While these PFCs conceptually gave the farmer-members an opportunity to collectively decide the price of their produce and to get away from the notorious grip of the middlemen, in practice it did not happen for various reasons mentioned above. Majority of the farmers still feel the need for such a cooperative. If proper lessons were learnt from the past experience and strategies re-worked based on this, these cooperatives could be easily revived and the same could be attempted in other places.

Another institutional alternative that allows for producers to set their own price on their produce and market their products is that of a Producer Company. A Producer Company, which is a hybrid between the cooperative system and the corporate, is now possible due to an amendment made in the Companies Act in India. While there are a lot of cooperatives in the country, majority of them suffer from the malady of bureaucratic and political control. As a corporate, the Producer Company can have powerful structures and continuous initiatives.

Individual farmers can only sell and cannot 'market' – they are not in a position to set the price whereas the market sets the price for them. It is believed that with a powerful entity as a producer company, a farmers' collective would have the advantage of setting the price. They can give a brand name to their produce and take advantage of the other marketing techniques. IOFPCL is right now using this avenue to market its organic products.

There are also many challenges that a Producer Company has to overcome. For example, the promoter of the company has to come up with 25% contribution, which is imposed as a bank's criterion. Farmers even after coming together cannot come up with this quantum of contribution. Since one can have only one vote irrespective of the number shares one takes, the tendency of the farmers is to have only one share. This provision stands in the way of increasing the equity and meet the above requirement.

If processing technologies are geared towards small-scale, simplified processors it would be easier for small producers and their groups to take up this activity. Through this, they can tap into at least the local markets. The other reason why more and more localised markets have to be explored is that farmers' knowledge and control over distant markets is very low. One of the principles that should drive our exploration of markets is that there should be lesser and lesser

export of nutrients from our villages to distant markets. The attempt therefore should be lessen the paddy chain and keep the cycle close to the point of production. Local processing and local marketing, including by cooperatisation of producers and consumers seems to hold the key in giving back better margins to farmers.

THEME 3.2

LOCAL MARKETS AND MARKETING

S. Usha

Thanal is mainly involved in advocacy and research work, with some programmes with communities on sustainable agriculture and sustainable development. Part of Thanal's mandate is to understand the impact of the development model pursued in the past 50 years on the communities at the grassroots level. The Organic Bazaar experimenting with local markets and marketing is a small initiative that Thanal has begun recently, along the lines that IIRD, Aurangabad had developed.

The concept of this Organic Bazaar is based on four basic principles. The first principle is environmental stewardship, the stewardship of the people who work on sustainable agriculture and promote environment-friendly methods in agriculture. Second basic principle is accountability, third is Fair Trade and the last is alternatives to the current marketing systems.

On the whole, the Organic Bazaar is an alternative to the current marketing model [a model that prevails that does not hold the producers, traders and consumers accountable]. The current methods of production completely disregard the traditional knowledge of farmers. Conventional values of trade help the middlemen to take the cream of the earnings while leaving the farmers poor. The trade puts immediate profit above environment and sustainability. Within the production system is harmful contamination of our food from various chemicals - nobody has any control over this contamination.

There are some problems with organic farming and trade too, as they are currently promoted and practised. The present methods of certification are based on expertise and money. Here, trade is construed to mean only distant markets.

The Organic Bazaar proposes an alternative to the current paradigm. The Organic Bazaar at Trivandrum started in the month of November 2003 as a monthly event and continues to be so. It started with three local producer groups of vegetables, two rice farmers and 85 registered consumers. After more than one and half years, the Bazaar has 60 local producers and 350 consumers. The Bazaar also gets products from Karnataka and Tamil Nadu. There are more than 100 varieties of organic products in the Bazaar at present. Some of the products are meant to replace plastics, in accordance with one of the objectives of this Organic Bazaar. The Bazaar has several other products like herbal medicines and the alternatives to plastics.

There are several opportunities that the Organic Bazaar provides especially to small farmers. Those who produce for the Bazaar are not regular and conventional farmers. It might be one of the reasons why they readily accept the idea of the Organic Bazaar. The extra income that they get from this farming seems to be encouraging them. This extra income is very important for women as most women in Kerala do not go for agricultural work. With the starting of the Bazaar, many women are now into this kind of farming. The additional income is acting as an incentive for the women. It is significant since the average land holding in Kerala is very small, only 10 to 15 cents. Even this land is under-cultivated because of several constraints including soil degradation. There is a hope to improve land utilisation through this process of organic farming. Three or four people have taken up organic farming on a regular basis after motivation by Thanal.

Incidentally, rice is not a major tradeable item amongst the organic products in the Bazaar at present. This is because rice production, even that of conventional rice, is in a crisis in Kerala. Kerala has lost more than 2/3rds of its paddy lands during the last thirty or forty years of the green revolution era and nobody wants to continue with paddy. Destruction of paddy fields continues. Almost all the conventional farmers are above 40 years old and the young generation doesn't want to continue with farming at all. So, Rice production itself is very limited in the state. Kerala produces only $1/5^{th}$ of what it needs. Because of these factors, organic rice production is very much limited within the state. Some farmers, mainly small farmers, produce organic rice but that is mainly for their own consumption. On the other hand, there is a huge demand for organic rice in the state. Price of the organic rice is as high as Rs. 25/a kilo.

At present, the Organic Bazaar has four organic rice farmers. The Bazaar imports rice from Karnataka and Tamil Nadu. Until now, the Bazaar has stocked 15 varieties of rice amounting to 800 Kilograms. Consumers prefer fragrant varieties of rice. The lack of consistent supply of such preferred varieties has become a problem. Consumers are ready to pay up to Rs. 20 for organic rice. The Organic Bazaar is sometimes charging Rs. 28/kilo. The transporting/importing charges have to go into the price tag. Consumers are ready to pay more for rice products like beaten rice and puffed rice, as whatever is available in the other market is not good.

Thanal's experience shows that the media is paying positive attention to initiatives like the Organic Bazaar. One of the reasons could be that media in Kerala is sensitive to pesticide issues.

Organic Bazaar is one venue where small producers are able to sell their products. Here, the prices are steady unlike in the regular market, as the Bazaar is untouched by the market outside and other external fluctuations. The trade in the Organic Bazaar depends on mutual trust, understanding and cooperation. It does not need any certification. At least 40 - 50 consumers

come regularly to the Bazaar. Often the consumers directly talk to the farmers and ask for something they want. The consumers have developed trust in the producers and have started believing these producers.

In this manner, the organic bazaar is trying to promote a good relationship between consumers and producers. Making the bazaar self-sustaining, especially after the external financial support stops is a challenge that still needs to be worked out. A local organising committee was formed with interested consumers and two or three NGOs to look into this issue and they are in the process of evolving the structure of the future Bazaar.

S. Usha
Thanal
L-14 Jawahar Nagar
Kowdiar
Thiruvananthapuram - 695 003
Kerala
Ph. No. 0471 2727150
Email: thanal@vsnl.com
Website: www.thanal.org

THEME 3.3

FAIR TRADE AND EXPORTS: POSSIBILITIES AND CHALLENGES

Vinod Bhatt

Navdanya is a symbol of the celebration of diversity in Indian agriculture. It literally means nine seeds. Navdanya came into existence as a programme of its mother organisation 'Research Foundation for Science, Technology and Ecology' (RFSTE), after the Uruguay round of GATT. It was in response to the threats it posed to biodiversity and livelihoods with patents on seeds and newer technologies like Genetic Engineering etc.

Navdanya has been working for more than 17 years now. At present, work is done either directly or in partnership with others, in 13 states in India from Jammu & Kashmir to West Bengal. Navdanya has one lakh farmers enrolled as direct members. The organisation started with conservation of biodiversity and at present, more than 2000 indigenous rice varieties are being conserved by its farmers. Navdanya, since its inception, has trained more than 2.5 lakh people in organic farming and biodiversity conservation. The biggest of the groups it trained, 'Art of Living', is now working in more than 130 countries. In India, they work in 4500 villages. Navdanya has trained Tibetan refugees in all their resettlement locations and these refugee settlements are going organic now. The refugees have passed a resolution that sale or burning of cow dung is a crime. Navdanya also promotes biodiversity registers. It has formed community based organisations in more than 4500 villages and started a *Jaiv Panchayat* movement against bio-piracy in 1999. Since then, more than 5000 *jaiv panchayats* have been formed across the country. The organisation has also started a *'Beeja Vidyapeeth'*, a school for sustainable learning.

In the area of markets, Navdanya is trying to reinvent the traditional market systems so that the current exploitative and unfair market structures can be replaced with co-operative and co-productive Fair Trade. For Navdanya, nature, farmers and consumers are co-creative and co-productive and not isolated and unconnected entities. This partnership is necessary for the care of earth, justice for farmers and health of consumers. In this context, Navdanya believes that India has a vast scope for exporting both basmati and non-basmati rice from India.

Rice has been feeding humankind since more than 5000 years. Rice is indigenous to India and there are archaeological evidences from 8000 BC to support the idea. 5 wild varieties of rice are available even now. It is important to recall that Rice gives employment to more than 70% of workers in India.

There are 15 varieties of basmati, from India and Pakistan. There are many traditional basmatis also. According to the European Union, these are geographical indicators. EU is supporting it by reducing import tax at the rate 250 euro per tonne according to EU regulation No. 1503/96. This is a big incentive to export basmati from India. India is exporting not only basmati but also several other varieties of rice even as Basmati are the biggest earner. According to Business Standard, the export was to the tune of Rs. 1842 crores in 2003 and it went up to Rs. 2062 crores next year.

There are three main ways of exporting - One can form one's own company and export; or export through any existing export company, or export through some Fair Trade organisation.

In Navdanya's reckoning, food needs of rural households come first, followed by the community's needs, then the national market and finally the international Fair Trade markets. While Navdanya supports international Fair Trade, it believes that it should not be at the expense of empty stomachs at home. It should not lead to soil erosion, water pollution and depletion of biodiversity. It should not lead to the deprivation of peoples' food rights and their income opportunities.

International trade should be promoted only in high value products like basmati, as per Navdanya's analysis. Further, it should be just and fair trade. It should do justice to earth, farmers and consumers. Navdanya began its work with domestic fair trade but had to take up international fair trade as the farmers could not find market for their surplus. Navdanya started with its Dilli Haat stall in Delhi and another outlet at Dehradun. The organisation also runs 2 cafes.

Navdanya moved into fair trade of organic rice as a counter to the bio-piracy of rice. Organisations like Bread for the world (BFW), Gepa, Hivos and others supported Navdanya in getting an entry into the international market. Gepa was the first who bought basmati from the organisation. Navdanya now has more than 500 basmati growers in Uttaranchal. They are now working in partnership with 'Slow Food', which is well known in Europe. Navdanya has formed a basmati presidium with Slow Food and others for conserving traditional basmati rice of Dehradun.

Even though policies favour exports from the country and in an era when export business has become the most lucrative business in India, small farmers do not seem to benefit from the situation. Several policies promote incentives like refund of central excise and custom duties to the exporters. 100% income tax exception is provided for exporting. Draw back procedures have been simplified. Duty-free imports are allowed under various schemes and duty free replenishment certificates are also issued to the exporter or manufacturer. Export promotion

capital goods schemes are also available. Credit against imports are available, foreign exchange regulations have been substantially liberalised. Norms for establishing offices abroad have been eased too. Transport subsidy is also given. Now, all goods can be exported without any restrictions with some minor exceptions. However, most of these benefits go to large export houses rather than poor farmers.

Dr. Vinod Bhatt
Navdanya Trust
A-60 Hauz Khas
New Delhi-110016
Telephone: 011-26968077/ 26856795
Email: vinodbhat@rediffmail.com; navdanya@sancharnet.in

THEME 3.4

EXPERIENCES IN SHORTENING THE CHAIN – FARMER COOPERATIVES

Hanumantha Reddy K.

This is a case study of Paddy Farmers' Cooperatives [PFCs] set up in a couple of districts in Andhra Pradesh [Karimnagar and Warangal] by Cooperative Development Foundation [CDF].

CDF, with its head office in Hyderabad and field office in Hanamkonda, has specialised in cooperative development. CDF is working with thrift cooperatives of women and men, dairy cooperatives and paddy farmer's cooperatives in 300 villages in Karimnagar and Warangal districts of Andhra Pradesh.

From the beginning, for CDF, it was a fight for democratic reforms in cooperative movement. It wanted a democratic law in place of the previous one which gave too much space for the control by and intervention of the government with regard to Cooperative Societies, to the detriment of farmers' interests and their initiative. The new law, Mutually Aided Cooperative Societies Act came into existence in1995 and it exists side by side with the previous one. Cooperatives are free to opt for any of the two Acts. CDF works to prove the efficacy of the new act in practice.

The PFCs opted to get registered under the new legislation. Paddy Cooperatives were established at three places, one at Makhdumpuram in Warangal district and the other two at Porandla and Gangipalli in Karimnagar district in the 1990s. At present, the farmers in the three villages are dealing with paddy seed only. There is another cooperative, which has been a Paddy Seed Farmers' Cooperative (PSFC) from the beginning. Paddy and paddy seed cooperatives are separate entities. The paddy cooperatives have stopped functioning though they continue to exist legally. The same farmers formed Paddy Seed Cooperatives as an alternative activity.

The PFC at Makhdumpuram started in 1990 and then the other two at Porandla and Gangipalli followed. These three PFCs got into losses within three or four years of their inception and have almost stopped functioning. Their assets are intact. The rice mills, godowns etc., are all in place. The mills used to run three shifts a day when they started. They are now unable to run even a single shift a day. At Makhdumpuram, individual farmers are coming to mill their rice, thus helping the management to pay salaries to the remaining staff and maintain the machinery. They are not running on the classical lines of cooperatives. They are almost defunct as

cooperatives. At Porandla, farmers are still trying to run the PFC, borrowing funds from a thrift cooperative, in which the same farmers are members.

The farmer-members started these cooperatives out of a real need - even now, they want to revive them if given a better chance. The farmers did not want to go through all the middle persons in the marketing chain, who often cheat, do not pay on the spot and sometimes buy the produce from farmers and vanish into thin air when they fail to transact profitably in the market.

If the farmers do not want to depend on middle persons, the only option left is to go directly to the market. There, they have to pay commission to the brokers. The buyer would cut 2 kilos per quintal in the name of dust and broken paddy. They should bear transportation and hamali charges etc. All of this amounts to 35 rupees per quintal. Additionally the farmer has to stay at the market place all the time.

At Jammikunta market yard, if the farmer fails to reach by 9 AM, he has to wait outside until evening and try to sell only the next morning. If there is rain before selling the rice, it gets wet and the buyer will lower the price in the name of moisture. Practices differ from place to place. At Warangal market yard, farmers are allowed to keep the paddy in the bags. But the buyer would look at a selected bag or two and decide the price for the entire paddy lot. Often, this could be quite low if the trader finds dust or moisture in the sample he picks up.

If they want to take the paddy directly to rice millers, that is another story. The millers don't prefer individual farmers since the quantities are very small. They find it cumbersome to weigh and measure the smaller quantities. They prefer the middlemen/shahukaars who can gather the produce from different farmers in the village and offer it to the millers in larger quantities. Of course, there is indebtedness and necessity for ready cash that force the farmer to sell paddy to middlemen. The farmers, especially the small and marginal farmers take loans from the village shahukar for agricultural inputs and household needs during the season. They will have to sell their produce immediately after harvesting to the same shahukar as debt repayment.

It was because of these and several other problems in marketing that the farmers went on to form cooperatives. While the rationale for setting up the Cooperatives is clear, it is interesting to note that these Cooperatives failed to function effectively. One of the main reasons seems to be that the cooperatives began the venture with huge investments. For instance, the PFC at Makhdumpuram invested as much as 36 lakhs of rupees on infrastructure like rice mills, godowns and office building. The PFC had to pay interest on all these investments made out of loans. Things went well when the crops were good and the business was thriving. However, this was not to be so always. Because of a severe and continuous drought in these areas, paddy

production went down drastically. And at the same time, paddy and rice started coming from other states. Prices started falling for the paddy that the PFCs procured and the rice they milled. Rice mills need enough supplies of paddy to run. They can't be used for any other crops. The cooperatives should have started on a smaller scale and in such a way as to adapt to the new situation without much difficulty.

Another reason for the failure was too much of reliance on speculation. Paddy was procured from non-members and from far-off places to run the mills at their full capacities and when there was deficiency of production within the PFC. There are times when they procured and stored paddy/rice worth for nearly one year. At the end, they had to dispose off the stocks at the same price. Losses were inevitable. The cooperatives went for risky speculation to earn quick profits and attractive dividends for the members. They were also driven towards it by the necessity to quickly get out of the debts they have incurred by going in for huge infrastructural investments.

The very spirit of the cooperative was lost as the PFCs started behaving like business concerns. Members started feeling like customers rather than members of the cooperatives. They started bringing in bad paddy and started demanding good price in the same way as any customer in business would do. The members were already benefited by their very membership in the cooperative.

While the PFCs conceptually gave the farmer-members an opportunity to collectively decide the price of their produce and to get away from the notorious grip of the middlemen, in practice it did not happen for various reasons mentioned above.

The cooperatives as such were not unviable. They catered to the real needs of the farmers, that too, to the needs of those belonging to small and marginal categories. Majority of the farmers still feel the need for such a cooperative. If proper lessons were learnt from the past experience and strategies re-worked based on this, these cooperatives could be easily revived and the same could be attempted in other places.

Hanumantha Reddy K. (HRK)
Freelance Writer & Researcher
No. 206, S. R. Apartments, Lane 18, Road No. 1
Ravindranagar Colony, Habsiguda, Hyderabad 500 007
Ph. No. 09440602581
Email. hrkodidela@yahoo.com

THEME 3.5

PRODUCER COMPANY – COMMUNITY OWNERSHIP

Joshy Cherian

'Producer Companies' is a new concept taking shape in recent times in India. Indian Organic Farmers Producer Company Limited (IOFPCL) came into existence after the government amended the Companies' Act. Earlier, there were only three types of companies allowed - private, public and non-profit section-25 companies. Now, the government, by amending the Companies' Act, added the provision for a fourth type of company called Producer Company.

As a producer company, IOFPCL gives emphasis to the marketing of organic products. It is owned by primary producers. Like in Cooperatives, the principle is that of 'one vote per member', irrespective of any number of shares the member might have. This is a very strong and useful provision as it helps small farmers to control the company irrespective of the equity shares.

Producer Company is a hybrid between the cooperative system and the corporate. Government of India wanted a good mix of these two kinds of institutions when it allowed Producer Companies. While there are a lot of cooperatives in the country, majority of them suffer from the malady of bureaucratic and political control. Therefore, the government of India wanted a new structure, free from bureaucratic control. That is why a corporate dimension is added to it. As a corporate, the Producer Company can have powerful structures and continuous initiatives. For an activity like marketing, a loose Self Help Group federation or a farmers' association or even a cooperative will not be effective for a variety of reasons. A corporate structure however allows for effective marketing by producers.

Individual farmers can only sell. They cannot market. They cannot set the price. Market sets the price. If they come together in an organised way they can market the produce. If they have a powerful entity as the producer company, they would have the advantage of setting the price. They can give a brand name to their produce and take advantage of the other marketing techniques. That is the rationale for setting up a Producer Company.

IOFPCL is the first farmers' producer company in India. It gives farmers the power to set a price for their produce. It also helps the farmers in the process of organic certification. It is a farmer-centric and consumer driven entity. At the one end, the company helps farmers to market their produce and at the other end it serves the consumer. Both the farmers and consumers are beneficiaries. This is the basic vision of IOFPCL.

An important aspect of the vision is empowerment of the farmer. A serious crisis that the Indian farmer faces today is that of depletion of resources. The value of soil per acre depleted is estimated to be Rs. 20 to 25 lakhs. In this situation, IOFPCL tries to help the farmers not only with marketing but also in enlarging their vision and helping them to conserve soil and enhance other resources. The company also helps the farmer to take up better production systems and increase yields.

IOFPCL is also working towards competency building in farmers. IOFPCL looks at credit as a very important issue in building competency in farmers. Ensuring an affordable credit package is a big problem. There is a tremendous capital appreciation in agriculture but the liquidity is very low. Costs of credit are so high that the farmers do not have the liquidity to pay for it. Crop insurance is another area where more work is needed. At present, the crop insurance scheme gives almost nothing to the farmer. It provides only costs incurred by the farmer in case of crop failure but not what s/he could have gotten as income.

There are also many challenges that the Producer Company is trying to overcome. For example, the promoter of the company has to come up with 25% contribution, which is imposed as a bank's criterion. Farmers even after coming together cannot come up with this quantum of contribution. Since one can have only one vote irrespective of the number shares one takes, the tendency of the farmers is to have only one share. This provision stands in the way of increasing the equity and meet the above requirement.

All these years, civil society groups, our universities, departments and other agencies focused on only the production aspects of agriculture. Now, the time has come for all of us to put our efforts into marketing also and it is only collective, innovative endeavours that will come up with solutions.

Joshy Cherian
Indian Organic Farmers' Producer Company Limited (IOFPCL)
Thottumugham Post
Aluva 683 105
Ernakulam
Ph. No. 0484-2620659
Email: info@iofpcl.com

THEME 3.6

PADDY PROCUREMENT AND PROCESSING – SCOPE AND CHALLENGES

Shyam Kansal

Paddy procurement and processing forms a different end [from production] of the Paddy Chain and is an important stage in the entire chain. The experience of rice millers is an important means to understand the economics, dynamics and the policies that govern this stage. Running a rice mill is a profit oriented enterprise and has to be handled that way. Marketing at a large scale needs such enterprises, which are mostly beyond farmers and their cooperatives.

There are several problems with relation to rice milling and marketing. Unlike wheat, rice is consumed after considerable processing. Unless there is good cooperation from the market end, there is very low likelihood of farmers benefiting.

There are around five kinds of rice that are consumed in the country at present. First is Raw Rice or the rice that is simply de-husked and polished a little at the mill. At the other end of the spectrum, there is Parboiled Rice, which needs hydrothermal treatment, soaking, steaming, wetting, drying and then milling. Another kind of rice, the pressure parboiled one is a special kind of rice, which is used only for puffed rice called *muri*. It has to be done in parboiling kettles under high pressure. It is mostly used in West Bengal and Orissa. In between are two more varieties, tinned and half boiled. Rice is generally not preferred if it is available freshly harvested. It becomes sticky after cooking. To avoid this, rice is steamed. For this, raw rice is steamed and dried so that the stickiness goes away. Then there is the half boiled rice, which is also preferred in some parts of the country. The choice of plant and machinery depends upon what kind of rice is needed as an output after processing. Processing raw rice is very difficult. If not handled properly, it gets broken and gets lower price.

The process of paddy processing is quite tedious. Paddy has to be cleaned first. The husk has to be removed then, using the de-husker. The paddy remaining in the de-husker has to be removed by a separator. Brown rice has to be polished and graded. In the case of organic rice, black rice has to be removed using electronic colour sorting machines.

There are technical, organisational and managerial aspects which are critical in paddy processing.

Amongst the technical aspects, an important part is the choice of the kind of machinery used. Machines for small scale processing with lower capacities are not as useful as more sophisticated

machines with medium or large capacities. In the case of machines, the trend is towards bigger and bigger machines right now. The best machines handle 6 tonnes an hour. On the lower end of the spectrum are 200-kilos-per-hour huller mills, but quality of these is not good. The average capital investment for a medium outfit is around three crores of rupees. Further, the usual stocks kept for running such machines is paddy worth around three crores of rupees. For small cooperatives to compete with such mills is a challenging task. There does not seem to be much R & D work on developing machines that suit small scale processing either.

Then there are several organisational issues to be addressed. First, the seed money to start the organisation has to be found. After setting it up, it has to be operated properly for which a lot of managerial skill is needed.

Also of vital importance is whether the processing and marketing is done for local markets or distant markets. In Orissa, farmers can transport paddy from one area to another area but it is not possible in the case of rice. If one wants to transport rice from Orissa to Chattisgarh, an 8% tax has to be paid if a "C" form is not present [which is not possible for most transactions]. This is an area which needs urgent attention as it affects small producers when they want to transport rice from one area to another.

As part of marketing, attention has to be paid to what variety of rice would get processed. It could be short grains, long grains or scented grains. As we go higher up in this chain, milling becomes more expensive. Short grains are rather easy to process.

Once the mill is set up, procurement, storage, processing, pricing and marketing have to be done properly. Very few NGOs might be able to handle all these functions, especially pricing and dealing with price fluctuations. If there is a demand in market for organic rice and if there is a supply of organic rice, it is very likely that small-scale entrepreneurs will come up to take a place in the procurement, processing and marketing stage of the supply chain. Such entrepreneurs will very likely have better skills than NGOs in handling the situation.

Shyam Kansal
C/o. Kansal Food Products Ltd.,
Bargarh 768 028
Orissa
Ph. No. 06646 230671/222206
Email: niraj_kansal@yahoo.com; niraj_kansal@yahoo.co.in

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Photo Credit: CIKS Photo Library, Chennai

THEME 4

STANDARDS, CERTIFICATION AND INTERNAL CONTROL SYSTEMS

THEME 4.1

STANDARDS, CERTIFICATION AND INTERNAL CONTROL SYSTEMS - THEMATIC SYNTHESIS

Towards the end of the paddy chain is the consumer who expects a particular quality in the product being purchased and the adherence to a set of standards that govern the production process itself.

One set of standards that need to be incorporated into production processes is the set laid down by Fair Trade, which is not necessarily organic. Fair Trade, which used to be a small niche market earlier, is growing rapidly especially in Europe. There are a few main principles on which the concept of Fair Trade is built. Fair Trade stands against social maladies like child labour, forced labour and social discrimination. It stands for transparency and sustainability etc. Social security, which is unheard of in India, is taken care of in Fair Trade. While Fair Trade may not be the only alternative to all these maladies, it is one of the options available. When it started, it was an alternative approach, a response of the civil society mostly in the North [not of the governments] to the existing trade rules and conditions. In Fair Trade, "working capital", which is something like free financing by the Fair Trade buyer, is a great advantage. Fair Trade supports the idea that intermediaries are necessary but the number of them in Fair Trade chain is much lesser. In this way producer gets more remuneration and consumer get the goods cheaper. In India, Fair Trade is yet to catch up. Some initiatives that look at distant export markets within Fair Trade exist here and there. However, the market potential within the country for empowered consumers to support Fair Trade is very high and is yet to be tapped.

Coming to organic agriculture, it is conventionally understood and practised as a rigid system of externally laid down standards, policing to see that the standards are being met, certification provided at an expensive cost in case the standards are met and thus building confidence and trust in consumers in distant markets about the quality of the product.

However, things are changing on this front too, with alternatives being established for standards and hitherto-seen certification processes.

There is much to be done on simplifying and localising certification. The very idea of organic agriculture is to adapt to local conditions and local people have better knowledge about local conditions, than western certifiers flying in for inspections. When certification becomes localised, the cost of certification to be borne by the producers, processors and traders gets reduced and thus tends to develop local organic markets.

As long as there are distant markets for organic products, there is the need for a mechanism that acts as a trust-building exercise and that balances the interests of producers and consumers. Here, consumers want healthy and environmentally sound organic products and might be willing to pay premium price for that. Consequently, farmers or producers produce according to the standards preferred by the consumers. There are some key aspects that protect organic quality and ensure proper working of the control system – observation of standards in the production and processing stages. Standards define production methods [but not product quality] and are constantly modified. Inspection is part of the certification process to certify whether the production, processing and trading have been according to specified standards. Then there is the accreditation given to the certifying agency which guarantees that it is qualified to do the work and that the certification programme is being carried out competently. All of this is supposed to create trust in the consumers and affect their purchase behaviour.

Now, efforts are on to create alternative standards as well as alternative certification systems in an effort to reduce costs and in an effort to make the process farmer-centric/farmer-friendly.

For instance, the cost could be reduced with the adoption of Internal Control Systems (ICS). In this, farmers are encouraged to form groups for the purpose of certification. Developing Internal Control Systems (ICS) simplifies the process. This has made it possible to evolve a strategy called Small Holder Groups Certification. Thus, a shift from big individual farmers to small farmers' groups is possible. Within the group, this Internal Control System ensures farmers' compliance with the standards and the certificate is issued for the whole group.

Similarly, there are different kinds of standards. One kind of standards is the mandatory or regulatory ones, introduced by governments. Parallel to them are voluntary standards, built by communities to suit the local conditions. These are local standards which automatically keep up and conserve the local knowledge systems.

In certification too, in addition to third party certification, there could be other systems. One type of certification is the first party certification. It is a case where the producer says that s/he had produced something being sold in the market in a particular manner and the consumer has to believe her/his words and purchase. It was done in USA till recently. Then, there are second party certifications in which the consumer says that the farmer has produced organically. These are also scientific types of certification which constitute alternatives, which are not brought within the scope of current certification.

Community based certification programmes are also possible and these are multi-faceted. They involve a number of activities related to poverty alleviation. They can increase the level of rural employment in a number of ways. The amount of information gathered from community-

based certification is very important for policy-making. Linkages can be built with other organisations for credit facilities for this purpose. It should be remembered that certification also gives self-esteem and confidence to the farmers.

Newer systems like Participatory Guarantee Systems are being tried out in several places now. Across the world, there are many groups that are working on such guarantee systems to help producers and consumers of organic goods. Such attempts realise that production systems are quite diverse and that production is done in different socio-cultural contexts and different climatic conditions. These participatory guarantee systems have their strengths and weaknesses. These systems build strong relationships on the ground – the status of the farmers improves in their community. There is a better sense of ownership and responsibility towards the whole process. Decision-making is decentralised. There are also some problems, however. For the effort to come from within, it requires a high degree of education. Lack of recognition for such systems at the national and international levels is another problem. Another important problem is the lack of accurate data and enough examples to show and prove that there are really some people who guarantee organic produce.

In all such systems, it is important to have standards that are transparently set and transparently followed. Being watched everyday in the village/community through the production and processing, after a transparent enlisting of names as participating farmers in itself ensures that standards are followed. Such standards should be able to address production constraints. These alternative certification systems should not be seen in isolated manner. They have to be looked at as integral part of community development process. Only in such a situation would internal control systems really work.

Looked at from a consumer's perspective, organic paddy in particular or organic agriculture in general is about safe food. However, awareness about the need for safe food and what goes into production of safe food is quite low amongst consumers. Special efforts need to be put in to create this awareness and demand for organic products. Such efforts could specially target women and children as decision-makers in food procurement and consumption. Therefore, addressing organised self help groups seems to be a good a beginning point, in addition to reaching out to school children.

There is also a need to ensure that poor producers who produce through organic practices also consume such products and not run the effort only as an economic activity.

For the alternatives to work, organic agriculture cannot be looked at only at the level of individual farms and should be a community-led initiative.

It cannot be overstressed that values and ideologies are very important [gender justice, conservation of biodiversity, transparency and accountability etc.]. Community participation is crucial for the success of the alternative systems of organic standards and certification. The local norms and standards are extremely important–without them, conserving local knowledge systems would be very difficult. Simplification of documentation in Internal Control Systems, transparency and reliance on the NGO/external facilitator are some of the key features for the success of the alternative certification.

Whatever be the alternative certification system that is developed, it must be on the basis of a local market. Only such local markets would not let the farmer down and would not leave the farmers to the mercies of certification. There is also an urgent need for policy support for the best practices of such alternative certification.

THEME 4.2

FAIR TRADE IN RICE: IMPLICATIONS FOR THE PRODUCER AND CONSUMER

Arun Raste

With globalisation and liberalisation, there are many changes happening in the farm sector. There is a lot of movement of agricultural products across the world. Producers are forced to compete with other major exporters of farm produce. Soon, there is a possibility of agriculture becoming a major area of concern in world trade. Therefore, there is no point in talking about small, niche markets. We have to reckon with the fact that the present economics of scale is leading to benefits to large farms. Higher investments are being put on large farms. The investments in agriculture, which are increasing day by day, will further increase the power and number of the intermediaries.

Marginalisation of small farmers is a problem but it is not only on account of external forces. There are many times when it is of their own making. Increasing population is leading to continuous fragmentation of land. Small landholdings limit the investments and returns. They lead to negligible negotiating or holding capacity, especially at the individual farmer's level. Most farmers cannot hold their produce for even one extra day.

Earlier, Fair Trade used to be known as Alternate trade and people understood it as something connected to niche markets or small markets. Then it was felt strongly that Fair Trade should not be limited to, or looking at only niche markets and that this has to be a mainstream affair. That is the reason why the 'International Federation for Alternative Trade' changed its name to 'International Fair Trade Association'.

Fair Trade is a western concept and not many people in India understand it as yet. There are some organisations which are trying to make all trade into Fair Trade and IRFT is one among them.

There are a few main principles on which the concept of Fair Trade is built. Fair Trade stands against social maladies like child labour, forced labour and social discrimination. It stands for transparency and sustainability etc. Social security, which is unheard of in India, is taken care of in Fair Trade. Farm workers do not have this, at present. They get lower than minimum wages. Working hours are long and the concept of paying for "over-time" is unheard of in the farm sector.

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While Fair Trade may not be the only alternative to all these maladies, it is one of the options available. When it started, it was an alternative approach. It was the response of the civil society mostly in the North, not of the governments, to the existing trade rules and conditions. It was supported by trade unions, churches and good-natured people in the north.

In conventional trade, there is neither a relationship nor continuity between the producer and consumer. Fair Trade re-casts this and goes beyond the economics point of view. The principle of Fair Trade, at the end, is to benefit both producers and consumers.

Fair Trade supply chain differs in many ways from conventional supply chain. 'Working capital' is a major strength in Fair Trade - it is something like free financing, which a Fair Trade buyer does. Fair Trade supports the idea that intermediaries are necessary but the number of them in Fair Trade chain is much lesser. In this way producer gets more remuneration and consumer get the goods cheaper.

Fair Trade is spreading slowly and steadily. Globally it is worth just a billion dollars at present but it is growing at the rate of 25% a year. There are about 65000 Fair Trade sale points in the Europe and US. There is a new trend going on in countries like France and UK where they are declaring a whole city as a Fair Trade city. It started with Newcastle last year and many cities are following suit.

The biggest Fair Trade network at present is called 'FINE'. An organisation called Fair Labelling Organisation (FLO), based in Bonn, Germany which provides Fair Trade certification has come out with certain standards and certification norms for a few commodities. There are no standards for each and every product at the moment. Certification norms and certification processes have been set for only a few products. In Fair Trade so far, it is the buyer who pays for the certification cost. Now, a big controversy is going on about certification costs being pushed by FLO onto the producers. Initial inspection cost itself is about 2000 Euros or about one lakh rupees. Not many producer groups in India would be in a position pay such rates. If there were Indian certifiers it would cost much less.

Coming to the present status of Fair Trade worldwide, the total number of certified producers is only ten around the world. Out of them, nine are from Asia and three are from India including one Indian basmati producer. Total rice in Fair Trade is only 545 metric tonnes, which is very small compared to global rice trade. Only 8 lakh farmers benefit today from Fair Trade. One of the biggest challenges of our times is to make all trade into Fair Trade.

A large population of Europe is supporting Fair Trade. But it accounts for only 4 million people. They can impact about 10 million producers around the world. G 8 is talking about

aid to Africa, but if the entire trade is fair, the small producers in the Third World won't need aid. Even if 1% of Indian population converts to Fair Trade, the picture would be much larger. When the whole world is looking at India as a huge potential market, it seems ridiculous that we should look at Fair Trade as a mere exports-promoting activity.

There are many lessons to be learnt from the Amul experience in India. It has won the hearts of consumers not because the consumers wanted to support the producer but because they wanted a quality product. The organisation in turn gives maximum returns to the small producers. Many consumers in the cities may not have seen a village. But they have some compassion for the villages. The sentiment does work though they wouldn't buy a product just because of it origin in the village. Consumers would ultimately support Fair Trade because of the good quality of the products and the social values behind them. We have to support Fair Trade to achieve sustainability and dignity for small farmers and try and make all trade into Fair Trade.

Arun Raste
Director
International Resources for Fairer Trade (IRFT)
Sona Udyog Indl. Estate, Unit No. 7, Ground Floor
Parsi Panchayat Road,
Andheri (East)
Mumbai – 400 069
Tel: 022 – 28352811, 28235246
Fax: 022 – 2823 5245
Email: admin@irft.org; irft@vsnl.com
Website: www.irft.org

THEME 4.3

CERTIFICATION INCLUDING GROUP CERTIFICATION

Mathew Sebastian

INDOCERT was formed in 2001 out of the joint effort of some NGOs and farmers' organisations. It is a membership organisation with international collaborations. It is internationally accredited to inspect and certify organic agricultural products and wild plants and to import and export organic products. INDOCERT is involved in the certification of crop production, wild harvest, animal husbandry, agricultural processing and trade.

There are several factors that motivate people to take up organic farming. To begin with, there is a good demand for organic products. Organic products also fetch premium price though premium price should not be the main driving force. While some farmers look for premium prices, many of them take up organic farming out of commitment. Organic farming depends mostly on local and natural resources. It is low-input agriculture and there are many ecological and health benefits to go with it. Farmers' incomes improve with organic farming given that the cost of production is less due to reduced costs of the inputs like pesticides and chemical fertilizers. Organic Products also seem to attract consumers of Fair Trade.

There is much to be done on simplifying and localising certification. We do not really need European people to fly to inspect and certify. The very idea of organic agriculture is to adapt to local conditions. Local people have better knowledge about local conditions. Local certification is also a question of local language. When certification becomes localised, the cost of certification to be borne by the producers, processors and traders gets reduced and thus tends to develop local organic markets.

Coming to questions on the need for certification to begin with, it is mostly seen as a mechanism that balances the interests of producers and consumers. It acts as a trust building exercise. Consumers want healthy and environmentally sound organic products. They are willing to pay premium price for that. Consequently, farmers or producers produce according to the standards preferred by the consumers. Certification can be seen as some sort of control that is needed to protect consumers' interests especially if they are located far away from the producers.

There are four key aspects that protect organic quality and ensure proper working of the control system.

- Observation of standards in the production and processing is a minimum requirement. Some farmers might get 100 marks in this. Even if one gets 40 marks, one can get through. The inspectors evaluate the production process based on the farmers' or processors' documents and based on their field visits. Then, the certification body assesses the farm or company and assures in writing that specified standards have been met.
- The accreditation given to the certifying agency guarantees that it is qualified to do the work and that the certification programme is being carried out competently. Earlier there were several accreditation bodies. Now, there is only one body to give accreditation. If we look at APEDA website, we will find that the number of the certifying agencies has come down from twelve agencies previously to six, which means that the process has become strict.
- The standards define production methods but not product quality. The standards are not static. They are continuously modified according to higher and higher requirements. For instance, copper is allowed in organic farming but the allowed amount of copper is becoming lesser and lesser as years go by. There are different standards. In India we have national standards.
- Inspection is part of the process certification. It involves on-site visits to certify whether the production, processing and trading have been according to specific standards. It needs complete documentation, something that farmers hate. It should be remembered that the inspector herself/himself would not decide. S/he only files a report at the office for decision-making. In the process of certification, results are assessed in relation to the requirements of organic standards and also some legal regulations.

There are different systems of certification existing at present. Previously, the Western certifier used to come to certify. Because of that, the cost of certification was a major problem. However, things have changed with local operators, local inspectors and local certifiers emerging on the scene. Because of this, the cost of certification has come down. The cost could be reduced further with the adoption of Internal Control Systems (ICS). In this, farmers are encouraged to form groups for the purpose of certification. In this, a homogeneous group of farmers practising organic farming can come under one umbrella for getting organic certification.

Developing Internal Control Systems (ICS) simplifies the process. The ICS is for meeting the requirements of certification. This has made it possible to evolve a strategy called Small Holder Groups Certification. Initially there was much focus on big individual farmers. Now, the new strategy encourages small farmers to form ICS-based groups and go in for certification. Within the group, this Internal Control System ensures farmers' compliance with the standards and the certificate is issued for the whole group.

On the whole, there are many improvements taking place on the certification front, with many changes made to localise the certification and benefit both producers and consumers.

Mathew Sebastian
Executive Director
Indocert
[Indian Organic Certification Agency]
Thottumugham P.O.
Alwaye - 5,
Ernakulam Dt.
Kerala-India
Phone/ Fax: 0484-2630908, 2630909,
2630910, 2620943
E-mail: info@indocert.org

THEME 4.4

ALTERNATIVE STANDARDS AND CERTIFICATION

Alexander Daniel

While talking about organic agriculture, it would be useful to touch upon the philosophy behind – it involves environmental stewardship and a conviction that we, as humans, are guardians and trustees of biodiversity, land, water etc. It entrusts us with a responsibility. If one is responsible, then one must be accountable too. That responsibility should be such that it could be proven through an audit. Audit means standards and certification. There must be openness to allow others to come and see and ascertain whether we are following standards or not – an openness to be inspected, if need be. Social justice is something inherent with organic. So, organic always goes hand in hand with Fair Trade and other such practices. Organic means seeking alternatives in all spheres, whether it is plant protection, management of soil or marketing. There would be no justice for organic farming with conventional system of marketing. There is a need for a different type of marketing and that is where the certification aspects of organic produce come into the picture.

Certification is essential for organic products to enter markets. It is this mechanism that assures consumers of the quality of the goods. Standards are nothing but the rights of the people, both the consumers and producers. They are rights of the individual and rights of society.

There are different kinds of standards. One kind of standards is the mandatory or regulatory ones, introduced by governments. Parallel to them are voluntary standards, built by communities. These are local standards. In West Bengal, for one crop, there are one thousand adages and proverbs as to how to cultivate, when do you plough etc. It is in our literature and records and even Tiruvalluvar wrote a chapter that could be classified as Standards. In Indian literature, there are a lot of practices which are considered ecologically sound. These standards automatically keep up and conserve the knowledge systems. Voluntary standards become important in this context at different levels, created to suit the local conditions.

Similarly, there are different kinds of certification. One type of certification is the first party certification. It is a case where the producer says that s/he had produced something being sold in the market in a particular manner and the consumer has to believe her/his words and purchase. It was done in USA till recently. Then, there are second party certifications in which the consumer says that the farmer has produced organically. Third party is that in which an independent agency says that it is organic. The first two are also scientific types of certification which constitute alternatives, which are not brought within the scope of current certification.

It is also important to look at other benefits of certification, from a different perspective. In the system of organic certification, concerned people work closely with farmers. This helps in preparing effective planning schedules. It increases the viability of the farms. Technical help is also provided. Organic certification leads to proper accounting and record keeping. Inspection is not policing. It helps the farmer to rise to a certain level and overall, it improves the organic system.

Community based certification programmes are multi-faceted. They involve a number of activities related to poverty alleviation. They can increase the level of rural employment in a number of ways. The amount of information gathered from community- based certification is very important for policy-making. Linkages can be built with other organisations for credit facilities for this purpose. It should be remembered that certification also gives self-esteem and confidence to the farmers.

Out of 146 million hectares of net cropped area in India, we have only a fraction - 2.6 million hectares - covered under certified organic. There might more than 60 or 70 thousand people from wild-collection areas who are not farmers. Many of these indigenous communities are not covered right now. By being alienated from the opportunity to get certified as organic producers, farmers lose a lot of benefits. One of the main doors of opportunity to gain premium price, improved incomes and better living conditions exists with certified organic farming. This certification alienation limits our ability to make small farms viable. It reduces the chances of the farmers to reach the markets. It undermines the self-esteem of traditional farmers.

There are several factors that limit the extension of organic practices and certification to all farmers. Lack of information with the farmers, existing ground level constraints in following the standards, the difficulty in maintaining records, very high costs of certification are some of them. Internal Control Systems which are promoted as an alternative approach are also expensive as of today. There is an urgent need to come up with Alternative Systems for certification. Teikei system in Japan, Ecovidi in Brazil, the Certified Naturally Grown System in USA, Masipag in the Philippines and Organic Bazaar in India are some examples of such alternative certification systems.

It cannot be overstressed that values and ideologies are very important. Community participation is crucial for the success of the alternative systems of organic certification. The local norms and standards are extremely important – without them, conserving local knowledge systems would be very difficult. Co-responsibility of guarantee is also very important. Consumer, producer and a third party must be involved in these alternatives. Simplification of documentation in Internal Control Systems, transparency and reliance on the NGO are some

of the key features for the success of the alternative certification. There are many attempts underway all over the world to develop local and alternative standards and it is important to adopt from the best practices elsewhere.

Whatever be the alternative certification system that is developed, it must be on the basis of a local market. Only such local markets would not let the farmer down and would not leave the farmers to the mercies of certification. The alternative certification must have bio-diversity conservation, organic seeds and gender justice as its core ideals. There is also an urgent need for policy support for the best practices of alternative certification.

Dr. Alexander Daniel
Institute for Integrated Rural Development (IIRD)
Kanchan Nagar, Nakshatrawadi
Post Box No. 562
Aurangabad 431 002, Maharashtra
Tel: 0240-2376336, 2376828
Fax: 0240 – 2376866
Mobile: 9372076828
Email: iirdind_agd@sancharnet.in

THEME 4.5

PARTICIPATORY GUARANTEE SYSTEMS

Mathew John

Keystone Foundation in the Nilgiris has gained rich experience in participatory guarantee systems mainly because of its involvement in the value chain of Honey and improving the livelihoods of tribal communities for more than fifteen years.

Across the world, there are many groups that are working on different guarantee systems to help producers and consumers of organic goods. Such attempts realise that production systems are quite diverse and that production is done in different socio-cultural contexts and different climatic conditions.

In 2004, IFOAM brought together several groups working on guarantee systems around the world to conduct a workshop at Torres in Brazil. The gathering was a catalogue of systems that guarantee the consumer that particular goods are organically produced.

One of the facts that emerged from the workshop was that most groups were working with the same basic principles. These were based on the basic standards of IFOAM, CODEX and national regulations of different countries. Alternative systems of certification in all these cases were built on these principles. Another key feature was that these guarantee systems were participatory. There was a good deal of social control, transparency and openness involved in all these systems. All these groups were looking at local markets and direct sales.

In this workshop, IFOAM and MILA [a Latin American organisation] joined hands to form a group called 'Participatory Guarantee Systems'. The objective was to create an action plan to build legitimacy using the strength of unity of these divers groups.

These participatory guarantee systems have their strengths and weaknesses. These systems build strong relationships on the ground – the status of the farmers improves in their community. There is a better sense of ownership and responsibility towards the whole process. Decision-making is decentralised. There are also some problems, however. For the effort to come from within, it requires a high degree of education. Lack of recognition for such systems at the national and international levels is another problem. Another important problem is the lack of accurate data and enough examples to show and prove that there are really some people who guarantee organic produce. Economical sustainability is also something that needs to be looked at.

This system has to move forward either through voluntary systems or through local groups. If these groups resolve to work together, a common platform could be built where the "Participatory Guarantee System" can be defined collectively. A very important principle in such a System is that the standards should only be described but not dictated to the farmer.

The need for such participatory guarantee systems arises from the fact that certain elements of the current certification systems hinder progress of organic farming. High costs involved in certification, too much stress on exports, outsiders taking over the entire process, farmers forced to feel guilty until proven innocent, documentation difficulties, ownership issues and lack of trust are some such elements. Because of these factors, participatory guarantee systems become an immediate necessity. It has to be borne in mind that any such alternative process should be methodologically appropriate to the local conditions.

Four outstanding examples of Participatory Guarantee Systems from different parts of the world demonstrate that there is a method behind this. These cases could be a methodological guide for others to work and develop the systems further. "Certified Naturally Grown" system in USA, which started in June 2002 as a rebellion against USDA's takeover of the word 'organic' by law is one such example. This alternative system wanted to work only with small producers who supply to the local markets only. A unique aspect about this system is that it is entirely managed on the web. The producer feeds her/his entire information for all to see and s/he makes her/his application also online. Inspection is done by other growers or volunteers. This system now has about 350 farmers.

A second example is from India – that of Keystone Foundation. It is involved with wild produce as well as cultivated produce. Wild produce requires resource monitoring. It is very easy to get carried away because of the amount of produce available from the forest areas. Therefore, there is a need to monitor how much is available and how much can be extracted. In the cultivated produce, issues like access to land, food security, conservation, health and nutrition have to be addressed. Keystone is dealing with about 350 families in the sector of organic farming at present.

A third example is that of the Organic Farm in New Zealand. An interesting feature of this case is that it is fully supported by the government. Here, groups of producers and consumers sat together to develop the systems. It is regionally controlled and community focussed. The small groups in different regions have their own committees to sort out issues. They have a peer assessment system. They incidentally use the New Zealand organic standards.

Another example is the Ecovida network of Brazil. It is one of the largest participatory guarantee systems – with sales of upto 33 million dollars in 2003. Here, it is made very clear that it is a

non-obligatory certification by direct trade by organised small farmers. An important feature is that it is decentralised. The knowledge of and respect for local realities, cost reduction and direct assistance are some other key features in it. Inclusiveness is another key thing of interest in this system. There is much work that goes into including more and more organic farmers into the network. Right now, the Ecovida network has 2400 families in 270 groups managed by different committees in different parts of Brazil.

These examples illustrate how different groups in different parts of the world could successfully build their own systems based on their local conditions.

Mathew John
Keystone Foundation
Groves Hill Road
Post Box 35
Kotagiri 643 217
The Nilgiris, Tamil Nadu
Ph. No. 91 4266 272277
Fax. No. 91 4266 272977
Email: mathew@keystone-foundation.org
Website: www.keystone-foundation.org

THEME 4.6

LINKING ORGANIC PRODUCERS WITH CONSUMER MOVEMENTS

S. Ponnambalam

The consumer is the last person in the paddy chain and of course plays a very important role in influencing the chain. FEDCOT is a large consumer organisation and has seventy six thousand members in Tamil Nadu.

Two aspects related to food that should be of concern to any policy formulated by the government are Food Security and Food Safety. While food security is given much importance, especially in developing countries, food safety is a much-neglected issue. However, as the economy develops and consumers become aware, the need for safe and nutritiously superior food increases. Given the current situation of high contamination of our food with various chemicals used in the production process, thanks to the Green Revolution, the only option seems to be to go back to organic or environment-friendly bio-farming or traditional farming.

FEDCOT was formed to protect consumers' rights in the state of Tamil Nadu. It has emerged as a leading organisation with 360 Member Councils and more than 70000 consumer activists as members at the grassroots level. FEDCOT acts as an awareness creation and advocacy group. It designs programmes to avail of and monitor the internationally charted and accepted consumer rights. These rights include the right to basic needs such as food, shelter and clothing apart from the right to safety, choice, representation and redressal, the right to information and consumer education and the right to live in healthy environment. The organisation started working on organic farming only three years back.

Various Directorates have been formed within FEDCOT to address various issues with a mission to empower the affiliated Member Councils. For instance, the Agriculture Directorate of FEDCOT works for sustainable agriculture development. FEDCOT has trained 287 farmers so far in bio farming mostly from the traditional rice cultivating area of Tanjavur. Over 1750 acres of land was thus covered in the year 2005-2006.

From the consumer's point of view, sustainable agriculture includes food safety and security and eco-friendly environment. FEDCOT believes that the sustainability of organic farming would be doubtful without a strong marketing mechanism. Therefore, it is opening retail outlets at chosen vantage points in selected towns. FEDCOT is also trying to make use of the

recent marketing reforms brought about by the Government of India, such as contract farming and direct marketing systems for organic products.

Awareness about organic products is near-negligible in the country at the moment. So, the organisation is organising awareness campaigns to popularise and create demand for organic products through their Member Councils. They are focusing on the women-headed households. FEDCOT looks at women as decision makers in food procurement and is focusing on sensitising women as consumers. So far 17,970 members of the Self Help Groups have been trained in this respect. Consumer Clubs are being formed in schools to inculcate consumer consciousness in children. There are 200 such clubs now.

Some of the existing systems of organic standards and certification are not popular amongst Indian farmers, traders and consumers and FEDCOT believes that an alternative institutional approach at the grassroots level is needed. The activity of such an institution should cover all aspects of organic farming from production to marketing.

It is hoped that the willingness of higher income groups of consumers to pay premium price for organic products would encourage farmers to adopt organic methods on a larger scale. There is not enough effort on the part of the government to popularise organic farming, even though large scale environmental damage is being acknowledged with current practices of production. It is also interesting to note that there is no proper agency for certification of organic products for domestic markets though there is an agency like APEDA for products to be exported.

It is necessary to maintain the identity of the organic products with suitable certification and labeling procedure. Such certification should be based on the production rather than on testing of the end product. Getting the production standards laid down by independent and competent bodies would help both farmers and consumers. Further, certification should not be mandatory but only voluntary.

An issue of concern is the lack of attention being paid to livestock and the important role that livestock plays in organic farming. Encroachment of the pasturelands and high cost of cattle feed lead to dwindling numbers of cattle. Farmers cannot afford to keep cattle anymore when the price of one litre of milk is lesser than one litre of water. Powerful pesticide and fertiliser industry lobby and invasion of foreign seed giants are some other constraints that confront organic farming. FEDCOT, as a civil society organisation, is identifying such bottlenecks and trying to influence government policies regarding availability, accessibility and affordability of safe food products. It suggests to the government ways and means to overcome the drawbacks.

In this context, FEDCOT calls upon the government to open separate windows in supermarkets and farmers' markets for organic products, to identify and protect the pasturelands, extend subsidies to organic manure, to waive tax on cattle-feed, rejuvenate traditional paddy seeds, and to make the certification process easy and affordable to small and marginal farmers.

S. Ponnambalam
Director of Women Concern
The Federation of Consumer Organisations of Tamil Nadu
and Pondicherry (FEDCOT)
22, Pavalar Nagar, Beach Road
Nagercoil - 629 002.
Ph. No. 04652-221235
Mobile No.94434-82599
E-mail: fedcotwomen@yahoo.com

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ADDITIONAL PAPERS

1. THE PADDY CHAIN: BUILDING CONSTRUCTIVE ALTERNATIVES - HIVOS BACKGROUND NOTE

Bishwadeep Ghose, T. Muralidharan

Hivos' policies on Sustainable Development: Hivos policies and actions are governed by its overarching policy paper titled 'Civil Voices on a Global Stage' which outlines Hivos' vision for understanding the root causes of poverty and for supporting organizations dedicated to its eradication. Presently there are six sectoral policies that echo the spirit of this overarching policy. The policy on Environment and Sustainable Development (ESD) was developed first in 1988 and revised again in 1999. From time to time, Hivos organises consultations on its policy priority areas in order to stimulate exchange of ideas and experiences in the development sector, and also to keep abreast of progress in theory and in practice of developments in specific sectors. In 2002 as a part of the ESD policy domain, a workshop titled 'Livelihood strategies of the Rural Poor and the Environment' was organized in Bangalore essentially to deepen our own understanding along the four sub themes of agriculture and forest based livelihoods, fisheries, rural industries, and coping strategies for drought prone areas. The issue of food security was placed central to the rural poor's livelihood strategies. The ESD policy had provided the broad framework to engage in issues related to the sustainable use of natural resources, networking and institutional development (movement building) and lobby advocacy. In 2003 the Hivos policies on ESD and Economy merged into one policy domain called the Sustainable Economic Development (SED). It aims at improving the economic position of the poor and marginalized in a sustainable way. It emphasizes the need to increase and improve the access to resources leading to sustainable income opportunities; and improve the quality of the production processes. The policy while acknowledging the need to follow the rights approach and on civil society building, argues for strengthening the position of the poor and the marginalized to be able to play a more active role in the 'markets'.

Alternative Livelihoods

Many of Hivos' partners are working in the area of sustainable agriculture, organic farming, the building of long-term food securities within communities, environmental justice in a wider environment where issues of rural livelihoods and food security have become growing concerns. The fragmentation of sustainable livelihoods has been exacerbated by export driven policies in agriculture production, lack of their returns to the small producers and their losing control of

the local economy because of macro economic restructuring. Alternative development activists are focusing on sustainable livelihoods for the communities which include developing possibilities for new kinds of marketing inclusive of organic bazaars (e.g., conservation of seeds and marketing of produce by people themselves), building capacities in all parts of the chain and resisting policies which deprive farmers of the rights over production and distort consumption patterns. Globalization has caused severe strains for people who have little access to either capital or policy. The Hivos Regional Office is committed to working with people living in poverty and building organizations of affected people themselves. It is an irony of the times we live in that the very people who are growing food are the ones facing extreme pauperisation. The Millennium Development Goals (MDGs) include reduction by half the number of people living in extreme poverty and reduction by half the number of people who are chronically hungry. The unabated deaths of farmers by suicide are the extreme signs of serious divides in rural India. Hivos' partners are not working along the entire paddy chain but many of them have a strong background in livelihoods, in countering poverty effects, in lobby and advocacy and in building organizations that protect the rights of small farming communities to grow cereals, and to market them at the local level. While the workshop would serve as a platform that would bring together a range of experienced and eminent people from farmers' organizations, the field of academia/research, practitioners, policy makers for an animated exchange on various issues, we at Hivos would also be keen on getting informed by the debate on whether interventions along the chain would be useful in terms of addressing the issues of food and livelihood security for the small and the marginalized within the farming communities and also those outside it.

Within India the greater emphasis on liberalization since 1991 led to declining investments in agriculture and major changes in food security issues. The response of the rural poor to governmental neo-liberal policies was negative as seen in the debacle of the previous Government at the last elections. This has brought the focus back on agriculture and the rural poor opening up opportunities for greater civil society participation in sensitizing the State to develop appropriate pro poor and agrarian policies. The rights of the rural poor to secure their livelihood and economic security thus need to be viewed and strengthened in this perspective. In that context Hivos' support to movement building, networking of sustainable production initiatives to address the larger and yet interlinked issues of food/seed sovereignty needs to go hand in hand with the strategy for focused interventions along the contours of the market approach where small farmers are advantaged. The importance of coalition building for lobby and advocacy to safeguard the economic and political rights of farmers (patents on seeds, GMOs) needs to be further accentuated.

Hivos' Engagement with Civil Society Organisations

In the course of Hivos' engagement in the last 15 years with sustainable production processes like LEISA/organic agriculture[1] it has been demonstrated adequately that any practice towards organic is a more sustainable form of agriculture and that it is also crucial for addressing the food security of the poor and the marginalized. The other hypothesis that organic agriculture would also improve the livelihoods of the producers has not been tested at a scale where it would make a difference to millions of small and marginal producers. However the results of several NGO initiatives have been encouraging in this regard. Several civil society (NGOs and Research institutions) initiatives have also demonstrated that over the years the farmer indeed has benefited through organic agriculture because of favorable economics of production. The challenge now is to ensure that livelihood choices could further be enlarged by enabling the producers to play a more empowered role in getting a fairer price for their produce. This could be done by exercising greater access and control over several interlinked processes along the value chain. The number of actors is often too large and the lack of transparency in the various processes makes the design of implementations very difficult.

To deepen our own understanding of the various actors and processes, there was a need to focus on a few commodities and try to understand the processes in totality. This would inform us on ways to improve the quality of the production processes and also increase the access of the producers to be more equitous on an uneven playing field. Interconnectedness and integration with markets are the realities of a globalizing world. Hivos reaffirms its faith to work with the smallest of producers so that the rural-urban divides in the country are not exacerbated further. The small producers, farm labour and women having virtually no protection and no social security are likely to be pushed further down in poverty, if they are not integrated into the development process. As a key commodity, rice has been identified to be studied more closely for Hivos' activities in Asia. Its importance is underlined by the fact that 90% of the world's rice is still grown and consumed in Asia. Asia is also home to 250 million rice farms!

Hivos initiated research studies on Rice/Paddy in Indonesia, Srilanka, India and The Netherlands which looked at several aspects related to ecological/environmental, economics, institutional, social/gender dimensions of rice production, trade and consumption. The sharing of the studies was done in an International workshop held in Sri Lanka in March 2004, where representatives of civil society organizations from Malaysia, Thailand, Philippines, Indonesia, Srilanka and India participated. From the sharing of experiences it emerged that organic agriculture is indeed a better option for the small producer as it reduces the cost of production, enriches the soil, is

[1] The terms LEISA, Organic Agriculture, Organic farming though different in theory and practice are used interchangeably here

environmentally friendly (reduces costs on health) and there are possibilities for higher income if linked with the growing demand for organic produce. However very few examples emerged which actually indicated the farmers' (groups) engagement with a greater part of the food/value chain, indicating possibly the complexities and the difficulties in the processes along the higher order of the chain. Given the political, economic, agro ecological diversities of India, it was felt that a much deeper understanding of the processes that affect the lives and the livelihoods of the paddy producers needs to be acquired. It is with this objective that a workshop/consultation is being planned. We bring together practitioners, policy/state representatives, service providers, academics to reflect upon and dialogue on the various issues underlined below, which would also bring clarity on the way forward. It should not just be a critique or a review of the exiting status but should also help in building up constructive alternatives.

Objectives and Results of the Workshop Process

The workshop aims to look at the various processes and issues along the rice chain in totality and identify areas for interventions with a view to enhancing the livelihoods of the small producers. The participants would include practitioners from the field, researchers, people involved with policy making/influencing, aid agencies among others and the process would involve presentations on challenges faced by farmers and intermediaries followed by responses from the floor. It is expected that the groups involved with farmers would gain by way of informed experience sharing, knowing about state policies and at the same time be able to sensitize those involved with macro issues to the realities of the 'field'. The discussions should be able to throw up recommendations for Aid agencies (especially Hivos), for the State (and allied institutions) and to the Civil Society groups on the way forward to promote organic agriculture on one hand and on the other to address issues related to livelihoods of the small producers or agricultural workers, involved specifically in Paddy cultivation.

We expect the discussions at the workshop to result in the identification/refining of some of the more successful strategies (used by one or more partners) which have resulted in increasing significantly social, political and economic opportunities, in a replicable and vibrant manner, for and by those otherwise with few options and opportunities.

We hope, too, that the discussions will provide key indicators to "success" in the field of sustainable development, as developed by partners, and result in learning for voluntary development organisations, governments and donors on economic intervention in the India context.

Issues Experienced along the Chain

There are not many cases of success to go by where NGOs have been able to cover the entire range of activities from pre-production, production, processing and marketing at a scale that would make more than a marginal difference to the lives and livelihoods of the farmers in a sustainable manner. It is also not clear whether a single organisation would be in a position/ required to participate in the entire length of the chain? There have been several civil society/ NGO initiatives that have been successful at various nodes along the chain. Is it possible to learn from the successes and explore the interconnectedness of the world of rice growing to strengthen the hands of the producers? 'Some of the goals of organic projects-such as food security, environment protection, and increased income are not mutually exclusive but they do elicit different approaches and have different measures of success.

Clarity and consensus on these aims is important for achieving wider scalability: Key issues that have come up after through the studies and after discussion with various actors include:

1. Pre-production (seeds) and other Inputs

To initiate organic farming at a scale, access to good quality seeds is a prerequisite for the farmers. Several experiences are available on seed banks and community seed production and multiplication. The new seed bill that is being introduced is already mired in controversy and is seen as promoting the interests of the TNCs and private players while it could jeopardize the interests of the community driven initiatives. The provisions are also reportedly contradictory to the already existing national laws like the Plant Varieties and Farmers' Rights Act and the Biological Diversity Act. The issue of farmers' rights over seeds which is the stepping stone for any form of agriculture needs to be analyzed deeply in the wake of the new bill! Issues related to requirement of adequate quantity of organic matter, labour and credit for sustainable agriculture practices have not been addressed as well.

2. Production Processes and Role of Technology

Several approaches like Participatory Technology Development (PTD), Farmers Field School (FFS), Integrated Pest Management (IPM), Non Pesticidal Management (NPM), Integrated Farming Systems (IFS), Biodynamic Farming etc have been tried out for conversion of conventional paddy farmers to non-pesticides cultivation or even organic paddy. Though such initiatives have been by and large successful, these were severely tested while trying to scale up. What goes wrong while trying to scale up? Experiments like Systems of Rice Intensification (SRI), integrated farming (paddy + fisheries etc) have demonstrated that the scope for enhancing the returns to the farmers for the organic paddy producers can be quite promising.

3. Extension, Education and Awareness

Linking of formal research and technology development with farmers' field has been one of biggest challenges facing agriculture. The mainstream research and academic institutions within the country most often do not consider the 'unscientific' technologies developed through traditional knowledge of the farming community and advocate external input and technology driven agriculture. The development and promotion of technology is often guided by its 'marketability' overlooking the aspects of its relevance and appropriateness. The agriculture universities do not seem to have incorporated organic agriculture into its syllabi and hence the formal system for extension and education also turn out to be proponents of conventional agriculture. There is a growing awareness within the farming community about the merits of organic agriculture that is mainly driven by civil society initiatives. However it needs massive support, essentially by the Government to wean farmers away from the conventional to the more sustainable form of agriculture.

4. Processing/Value Addition

Most resource-poor farmers have very limited capacity for holding their produce after the harvest. Prices are generally low immediately after the harvest and the access of the small producers to infrastructure like storage and processing facilities is quite limited. In addition the lack of transparency and awareness regarding the procurement policies of the Govt. agencies/ mill owners add to the woes of the farmers. The policies of the Govt. to promote organic farming need to be examined closely along with the measures that ensure a fair access to the processing, storage, milling infrastructure by the small producers.

5. Markets and Marketing

Marketing of organic produce with the hope of getting a premium is one of the most misconstrued motives for farmers to go organic. The importance of getting a higher price for a quality produce cannot be underestimated but the instability/ vagaries of markets coupled with the absence of complete knowledge and the ability to deal with market systems has in the past resulted in rapid disillusionment about converting to organics. Marketing support is one of the crucial areas that needs attention and combines several other aspects like standards, certification, promotion, pricing etc. aspects, which are often beyond the ambit of farmer groups or even intermediaries. The farmers have little access to crucial market information, especially about organic produce. While the market lures with the promise of higher returns, there is very little by way of commitment from the side of the buyers. Innovative initiatives by NGOs are exploring the possibilities of creating local markets, which could obviate some of the stringent demands of catering to far off markets while at the same time enlarging a local

clientele that is appreciative of more ecologically and ethically produced food. Farmers are often not clear about the additional costs and efforts for marketing at the outset. Producers need a clear picture of the economic viability of going organic! It is also important to build up a movement of local consumers of organic products that would compliment the production processes.

6. Ownership Issues and Institutional Structures

The assumption is that for deriving the maximum benefit of producing and marketing organic produce, it may be ideal that the primary stakeholders are in control of a larger part of the value chain. This would ensure that the accrued benefits would directly reach the producers and at the same time enable the producers a greater say in negotiations with the markets and all other external agencies. The initiatives so far have based production and marketing on the already available community based institutions of SHGs, federations, cooperatives and more recently, producer and public limited companies. The NGO promoted models are generally more ecologically and socially sensitive and the producers stand a greater chance of being benefited. But these models do not present a clear picture of the sustainability of the enterprise and are plagued by limited growth prospects. The combined skills of the producer groups and NGOs are suitable in terms of knowledge generation/ sharing and greater participatory process but are tested in trying to reach greater economies of scale. The corporate driven farming (contract farming and otherwise) have proved to be a greater success with the markets especially exports, but have questionable intentions when it comes to issues of greater transparency or enhanced community participation in controlling of the various processes like intensity of water usage, food security, degree of mechanization etc.

7. Access and Availability of Credit and Role of MFIs

With restructuring of banks and increased emphasis on profits, provisioning and accounting norms, lending to agriculture in formal scheduled commercial banks has been severely affected. From the early nineties the institutional support for agriculture has come down from a level of 15.9% of gross credit in 1990 to 9.8% by 2002 according to EPW (March 2005 issue). However, after the last general elections the new government initiated steps for increased agricultural lending which has helped mainstream/conventional agriculture enjoy better institutional support while there is not much support directed towards development of organic farming or the farmers practicing organic agriculture. At present the support from mainstream financial institutions to provide credit specifically for organic agriculture is more to meet export market demands. This form of support to organic agriculture from financial institutions is restrictive and it might be useful to view the roles of the banks, cooperatives, MFIs in terms of catering to

the needs of the farming communities for sustainable agriculture and specifically at cultivation of organic paddy. In this it may be necessary to look at lending policies in for organically grown field crops such as Paddy, scale of finance, assessment of input requirements, terms of providing credit, etc.

8. Issues Related to Labour

Paddy being a crop that is labour intensive and organic paddy popularly believed to be even greater labour intensive, the implications on labour needs to be further explored. Considering the fact that most of the labour employed are not necessarily the land owners or from land owning families, tenural issues are brought into sharp focus. Lack of land tenure could tend to reduce the attractiveness to go organic as there is then much less incentive for the producers to improve the quality of the land. The temporal nature of labour requirement which in many states is filled up by migrant workers brings some more issues into consideration. The issue for fair payment of wages in the light of declining prices holds true for all forms of paddy-conventional, fair trade and organic. In the situation that the farmer has to deal with declining returns, implications of providing equal wages to both men and women puts additional burden on the small farmer. (See Women and Organic Paddy below).Due to the nature of present cultivation practices in Paddy, a water intensive crop, the size of land holding being small has implications affecting the farmer's scale of production.

9. Women and Organic Paddy

In any form of paddy cultivation the role of women at all the stages of production is substantial if not central. Organic agriculture may have specific impact on women on two aspects-land tenure and labour availability specifically for female headed households. The increased demand for labour and its implications on health of women need to be explored in depth. The inequities of wage rate between men and women in any form of farming activity would test the interventions related to organic/sustainable agriculture projects.

10. Standards & Certification

The need of certification and service providers has been growing over the years, especially for export markets. However until now most of the certifying agencies have been promoted by western agencies, which set the standards. The relevance of such standards for the domestic/ local markets thus needs to be explored. The building of trust between producers and consumers through a mode other than cumbersome certification processes is being explored through experiments of local marketing. The existing certification standards and processes are not scale neutral and hence are unfriendly to the small and marginal farmer. The kind of record keeping and paper work ('audit trail') that is required by most certification procedures are often quite

forbidding for the small farmers. The development of internal control system (ICS) though useful has not been tried out in any significant scale. Prohibitive costs, multiplicity of standards for different markets and vagaries of different certifying agencies come in the way of adhering to a certification process. What do standards and certification mean to small and marginal paddy producers?

11. Role of the Government

Agriculture and allied activities being the primary sector provides livelihood for majority of the population in India. In the last five years the central government as well as several states has announced the policy on agriculture which highlights the importance of organic agriculture. The government 'schemes' in support of the policy have introduced certain schemes like vermi-composting, certification subsidies, training etc. there is a urgent need to review and inform such policies in the light of the accumulated experiences of the farmers' groups across the country in experimenting with alternatives. Perceived bottlenecks of increased demand for labour for organic farming could also pave the way for increased income generation possibilities in the rural areas. Any policy for promoting organic farming also cannot afford to ignore the importance of livestock and fodder within the farming system.

Conclusion

With rapid Globalisation and liberalisation of the economy, the markets have had an ever increasing role in influencing policies that govern the social sectors. Those who have been in a position in terms of better education, access to information, and to resources are riding the wave of this process while those without wealth, often the voiceless and the marginalized have been pushed further down. Their persistent poverty is also characterized by increasing marginalization and social exclusion. What then should be the role of the State in terms of ensuring that the livelihoods of these vulnerable producers is not just secure but actually grows? Does the State's support to organic agriculture, also significantly be a deterrent for the proliferation of pesticides, for the cuts in subsidies, for the growing influence of chemical, seeds and GM giants etc? How does it respond to the unjust influence and role of the markets? There is also a need to look closely at procurement policies, the role of FCI, central warehousing corporations, marketing support systems. How do farmer communities build up self-sufficiency in safe food production and consumption?

Many issues along the conventional paddy chain would include those that would be encountered for organic paddy as well. By analyzing the paddy chain in its totality can we offer some understanding on the issues, challenges and possible solutions for ensuring the food and livelihood security of the small farmer.

2. CONSTRAINTS TO GOING ORGANIC: AN OVERVIEW OF THE CURRENT SCENARIO WITH SPECIFIC REFERENCE TO TAMIL NADU

A. V. Balasubramanian

During the last thirty years there have been an increasing number of farmers who have converted to organic farming or are keenly interested in conversion. Primarily conversion would require access to – land, inputs for farming including seeds, manure, natural products for crop protection, water, cattle and cattle products, knowledge, technology and training as well as support from certification and marketing agencies, researchers and technical staff as well as an enabling policy environment. There are a large number of farmers who have converted to organic farming following varying types of philosophies such as biodynamic farming, permaculture, zero tillage etc. Conversion to organic farming can also be of varying grades spanning a whole spectrum and some examples are given below. For example in organic paddy cultivation, it could be that -

- Part of the paddy is organic
- All paddy is organic but subsidized by other crops (which are non-organic)
- Agriculture is subsidized by non-farming activities
- Partial fulfillment of criteria
- Crop in Conversion period
- Not all inputs are organic
- Neighborhood is not organic
- Chemicals used minimally as "necessary evil" - if all else fails

Constraints to Going Organic

Among the major constraints we may identify the following –

- Problem of quality and quantity of reliable inputs such as – seeds, farmyard manure, green manure, biofertilisers etc.
- Knowledge and technology for conversion. While there is a tremendous amount of reports, literature and what may be called as folklore, precise and useful information is more difficult to encounter. For example, if we take the case of natural products used for pest

control there is very little literature that gives precise information about specific products covering areas such as – spectrum of pests controlled, precise stage at which they can be controlled effectively, the range of concentrations that are useful, toxicity if any for humans, phytotoxicity, storage possibilities and availability of training and extension services.

- Training is also limited in terms of its quality and access and some of the features of today's scenario are – absence of rigorous efforts in agricultural colleges or ICAR institutions and limitations of training programmes by NGOs in terms of factors such as – topics covered, syllabus, course material, balance of lectures, demonstrations and field visits, minimum qualification of trainees, competence of trainers, assessment procedures, follow up with trainees.

While there is a certain growth of market for certified organic produce in terms of small and marginal farmers some of the felt needs are the following –

- Certification geared to local markets – immediate felt need
- Certification that is "scale neutral" – relevant to small and marginal farmers
- Certification that is "inclusive" – does not leave out people who have been cultivating organically through the years
- Certification system that does not handicap small farmers in terms of requirement of maintenance of records and audit trail etc.

Signs of Hope

Notwithstanding various of the above limitations there are a lot of positive indications in terms of the general scenario or organic farming which have plenty of hope in terms of future initiatives. Some of them are – the powerful critique of chemical agriculture emerging in the West and in India, a great degree of consumer awareness, a large variety and spread of efforts on the ground relating to – cultivation, informal/group certification, local marketing, credit mobilization, policy interventions and finally Central government and State initiatives relating to going organic such as – Mizoram, Karnataka, Uttaranchal States and Central Government initiatives.

Situation in Tamil Nadu

Specifically with respect to our field area and Tamil Nadu state there have been a vast number of initiatives relating to organic farming. The initiatives have come from varied sources such as – individual farmers, NGOs, Scientists in research institutes and Universities, Private Companies and the State government. These initiatives have spanned a broad range of activities including generation and distribution of inputs, extension and training programmes, publication

as well as certain limited efforts relating to accreditation and certification, marketing and intervention relating to policy initiatives. There are a large number of non-government organizations that are in the field with a range of activities. Besides these there are also corporate initiatives mainly for the cultivation and sale of horticultural produce, plantation products and medicinal plants. Scientists in research institutions are also part of various organic farming initiatives. In addition, the Tamil Nadu government has also initiated many schemes for support or organic farming. Of course, quite often this support is in a manner that is difficult to access due to the nature of the schemes.

In addition there is a vast range in variety of educational and training materials such as - a stupendous variety of books, magazines, newsletters, posters in Tamil. Some of the major subjects on which publications have been brought out are - crop protection, seeds, composting methods, biodynamic gardening, and panchagavya. There are also press reports and sections in newspapers – frequently sensational and misleading (e.g.) How to earn ten lakhs from every acre during a crop season/How to become a millionaire by exporting medicinal plants/I harvested ten tons of XYZ this season.... most publications lack rigor and elegance of presentation.

In conclusion we can see that that Tamil Nadu scenario with respect to organic farming represents today –

- A very large number of initiatives of many kinds
- Extensive geographic spread of efforts
- Initiatives originating from many sources
- Initiatives with diverse motives including – trade and profit, research, alternate lifestyle, ecological and environmental awareness etc.
- Several publications lack rigour and credibility
- Exaggerated claims regarding training programmes, conservation, yield etc.
- Severe limitations of Government efforts
- A general atmosphere of increasing – public support, consumer awareness and scientific interest

A. V. Balasubramanian
Centre for Indian Knowledge Systems (CIKS)
No. 30, Gandhi Mandapam
Kotturpuram, Chennai 600 085
Ph: No. 044 24471087/44715862
Email: ciks@vsnl.com

GOVERNMENT OF INDIA
MINISTRY OF AGRICULTURE
NATIONAL COMMISSION ON FARMERS

3. SERVING FARMERS AND SAVING FARMING

Fifth and Final Report, 4 October 2006

Jai Kisan : Revised Draft National Policy for Farmers

The first draft of this policy was presented to the Union Minister for Agriculture and Food on 13 April 2006. Since then, the draft policy has been discussed widely throughout the country with the principal stakeholders. Based on their inputs, the present revised draft has been prepared. NCF requests that this draft, after being examined by the Government of India, may be put up, with such changes as deemed appropriate, to the National Development Council (NDC) for consideration and adoption. After obtaining the NDC concurrence, the draft policy may be placed before the Parliament for consideration. The final policy statement may be adopted on August 15, 2007 which marks the 60th anniversary of what Jawaharlal Nehru said, "India's Tryst with Destiny". We are confident that if our hardworking farm women and men are assisted on the lines proposed in this draft policy statement, they will ensure a glorious destiny for the country in the field of agriculture and food security.

M S Swaminathan
(Chair)

R B Singh
(Member)

Y C Nanda
(Member)

Atul Sinha
(Member-Secretary)

Atul Kumar Anjan
(Member-Part time)

Jagadish Pradhan
(Member-Part time)

R L Pitale
(Member-Part time)

Chanda Nimbkar
(Member-Part time)

JAI KISAN
REVISED NATIONAL POLICY FOR FARMERS*

1.1 Why a National Policy for Farmers?

To those who are hungry, God is Bread – Mahatma Gandhi, 1946

Everything else can wait, but not agriculture – Jawaharlal Nehru, 1947

A majority of the hungry live in rural India and also depend on agriculture for their livelihood; accelerated agricultural progress is therefore essential for their income and their food. The two statements above hence constitute the guiding principles of this policy.

1.1.1 Many steps have been taken since 1947 to strengthen agricultural research, education and extension as well as to produce essential inputs like seeds, fertilizer and electricity. Also, both mega and minor irrigation projects have been developed. An integrated programme of agricultural development was initiated in the early 1960s to help farmers benefit from irrigation facilities. Nevertheless food shortages continued partly because of a fast growth in population arising from advances in preventive and curative medicine. Import of foodgrains increased year after year and touched a level of 10 million tonnes in 1966, largely under the PL 480 programme of the United States of America. Fortunately, our scientists, with the help of international partners, developed high-yielding varieties / hybrids of wheat, rice, maize, *jowar* and *bajra*. These were introduced to farmers through the High Yielding Varieties Programme in 1966. A major breakthrough in productivity and production occurred in wheat in 1968 and resulted in a special stamp titled, "Wheat Revolution" being released by then Prime Minister, Smt Indira Gandhi. Since then the progress of agricultural production was steady and the growth rate in food production remained above the level of population growth. This came to be known as the "Green Revolution Era". This era was characterized by synergy among technology, services, public policy and farmers' enthusiasm and hence was christened "Green Revolution Symphony". Unfortunately during the past ten years, production and productivity have remained stagnant or even tended to go down. The reasons for this situation are well known and there is now considerable effort to reverse the decline and get our agriculture moving forward once again.

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* First draft was submitted to Government on April 13, 2006. It has been widely discussed throughout the country since and the revised draft is based on extensive consultations and comments.

1.1.2 Several policies for agriculture have been developed by the Government of India from time to time, the last one being in the year 2002. The decline in the growth of agriculture has now led to a climate of despair among farmer families, policy makers and the general public. Some areas in the States of Maharashtra, Andhra, Karnataka and Kerala have been affected by a serious agrarian crisis, leading occasionally to farmers' suicides. **The time has therefore come when we should focus more on the economic well-being of the women and men feeding the nation than just on production.** It is clear that the human dimension must be the principal determinant of agricultural policies and not just production in physical terms. The aim of this Policy is to stimulate attitudes and action which will result in assessing agricultural progress in terms of the net income of farm families rather than just in million tonnes of farm commodities produced, and which will help to place faces before figures.

1.2 Silver lining in the Dark Cloud

1.2.1 Fortunately, several significant initiatives have been taken during the last 2 years to reverse the downward trend in agricultural production and to find permanent solutions to the agrarian crisis. Some of the important new initiatives are:

i) Bharat Nirman or a New Deal for Rural India

ii) National Rural Employment Guarantee Programme

iii) National Horticulture Mission

iv) Expansion of agricultural credit

v) Lowering of interest rates

vi) National Rainfed Area Authority

vii) National Fisheries Development Board

viii) Changes in the Agriculture Produce Marketing Committee (APMC) Act, to make it farmer-friendly

ix) Integrated Food Law

x) Warehouse Receipt Act, making warehouse receipts a negotiable instrument, thereby helping to prevent distress sales

xi) Knowledge connectivity through 100,000 rural Common Service Centres (CSC)

1.2.2 The above programmes will make a positive impact on the well-being of farmer families if they are given a pro-nature, pro-poor, pro-women and pro-livelihood orientation.

1.2.3 **The time is therefore opportune for revitalizing our agricultural progress by making agrarian prosperity and food security and sovereignty the bottom line for government policies**

and priorities in agriculture and rural development. Given adequate investment and pro-small farmer public policies, we can reverse the decline and restore confidence in our agricultural capability. During the VI Five Year Plan (1980-85), the growth rate in agriculture was 5.7% as against a GDP growth rate of 5.5%. This was partly because of the allocation of 12.5% of the VI Plan budget for irrigation.

1.2.4 The growth rate of agriculture was about 2% during the IX Plan period and is slated to decline to 1.8% per annum during the X Plan.[1] The consequent declining share of agriculture in the total GDP without adequate shift of population dependent on agriculture has worsened the already adverse per capita farm income to per capita non-farm income ratio. A major problem confronting the rural areas is the lack of employment opportunities. During 1993-94 – 1999-2000, the growth of jobs in the farm sector was only 0.2%. While all efforts are needed to increase jobs in the farm sector by switching over to more labour intensive crops and practices to the extent feasible, and increased investment in irrigation, watershed development, wasteland development, land reclamation etc, greater focus has to be for accelerated development of the rural non-farm sector and development of clusters around towns/market centres. A growing farm sector, better rural infrastructure particularly rural connectivity, power, regular bus service, easy availability of credit and availability of trained manpower could help in development of rural non-farm sector and creation of more job opportunities.

[1] Approach Paper to XI Five Year Plan.

1.3 Draft National Policy for Farmers[2]

Ten Major Goals

- To improve the economic viability of farming by ensuring that farmers earn a "**minimum net income**", and ensure that agricultural progress is measured, by the advance made in improving that income.
- To mainstream the human and gender dimension in all farm policies and programmes and give explicit attention to sustainable rural livelihoods.
- To complete the unfinished agenda in land reforms and to initiate comprehensive asset and aquarian reforms.
- To develop and introduce a social security system and support services for farmers.
- To protect and improve the land, water, biodiversity and climate resources essential for sustained advances in the productivity, profitability and stability of major farming systems by creating an economic stake in conservation.
- To foster community-centred food, water and energy security systems in rural India and to ensure nutrition security at the level of every child, woman and man.
- To introduce measures which can help to attract and retain youth in farming by making it both intellectually stimulating and economically rewarding, by conferring the power and economy of scale to small and marginal farmers both in the production and post-harvest phases of farming.
- To strengthen the biosecurity of crops, farm animals, fish and forest trees for safeguarding both the work and income security of farmer families, and the health and trade security of the nation.
- To restructure agricultural curriculum and pedagogic methodologies for enabling every farm and home science graduate to become an entrepreneur and to make agricultural education gender sensitive.
- To make India a global outsourcing hub in the production and supply of the inputs needed for sustainable agriculture, and products and processes developed through biotechnology and Information and Communication Technology.

[2] For the purpose of this Policy, the definition of Farmer indicated in this draft has been used.

1.3.1 Definition

For the purpose of this Policy, the term "farmers" will refer to both men and women, and include landless agricultural labourers, sharecroppers, tenants, small, marginal and sub-marginal cultivators, farmers with larger holdings, fishers, livestock and poultry rearers, pastoralists, small plantation farmers, as well as rural and tribal families engaged in a wide variety of farming related occupations such as apiculture, sericulture and vermiculture. The term will include tribal families sometimes engaged in shifting cultivation and in the collection and use of non-timber forest products. Farm and Home Science Graduates earning their livelihoods from crop and animal husbandry, fisheries and agro-forestry will have their rightful place in the world of farmers and farming. The gender-specific needs of women in each category will also be recognized.

1.4 Asset Reform

1.4.1 The purpose of asset reform is to ensure that every man and woman in villages either possesses or has access to a productive asset like land, livestock, fishpond, homestead farm or income through an enterprise, or a market driven skill, so that household nutrition security is safeguarded, and children are able to go to school.

1.4.2 Land

1.4.2.1 The ownership of land is highly skewed with over 60% of the rural households owning less than one hectare. Farmers owning over one hectare comprise about 28% of rural families. The landless population amounts to 11.24% of rural households. These data relate to 1991-92 and it is obvious that by now there would have been further fragmentation of holdings leading to a much larger incidence of very small operational holdings.

1.4.2.2 The first and foremost task of the National Policy for Farmers would be in the area of land reform with particular reference to tenancy laws, land leasing, distribution of ceiling surplus land and wasteland, providing adequate access to common property and wasteland resources, and the consolidation of holdings. The Mohan Dharia Committee recommendations on Wasteland Development should be implemented since it will be more appropriate to refer to wastelands as wasted lands. Following the conferment of land rights to women under the Hindu Succession Amendment Act (2005), the provision of appropriate support services to women farmers has become urgent. *Joint Pattas* for both houses and agricultural land are essential for women to get access to credit with alternative collateral till the *pattas* are issued.

The Land Acquisition Act needs review and revision, with particular reference to the formula for calculating compensation.

1.4.2.3 Prime farmland must be conserved for agriculture and should not be diverted for non-agricultural purposes and for programmes like the Special Economic Zone. Such special programmes should be assigned wastelands and/or land affected by salinity and other abiotic stresses that reduce the biological potential of land for the purpose of farming. Every State should constitute a Land Zonation Team consisting of soil scientists, agronomists and remote sensing specialists to earmark soils with a low biological potential for farming such as wastelands, lands affected by salinity, acidity, etc., for industrial activities and construction. It is in our national interest that agriculture and industry both prosper in a mutually reinforcing manner.

Land for the Landless

1.4.2.4 The ownership of a small plot of land will help the family improve household income and nutrition security. Wherever feasible, landless labour households should be provided with at least 1 acre per household, which will give them space for home gardens and animal rearing. The allotment of such land should be in the name of the woman or in the joint names of both husband and wife. Tamil Nadu's recent example of allocation of land to the landless deserves to be studied and emulated throughout the country.

1.4.3 Water

1.4.3.1 Water is a public good and social resource and not private property. Priority should be given to evolving just and equitable mechanisms to give access to water and to include local people in management of water resources. Women must have a significant role in both access and management, as water users and managers. Irrigation water at the right time and in adequate quantities is now becoming a serious constraint in achieving both higher productivity and stability of farming in many parts of the country. *Jal Swaraj or self-sufficiency in irrigation water availability is the need of the hour*. Though the total rainfall in our country is satisfactory, its distribution is highly skewed, with most of the rainfall occurring in 100 hours in a year. It is also important to note that the majority of farmers depend on groundwater for irrigating their crops. This resource, in which farmers have invested their hard-earned savings, is today increasingly depleted with groundwater tables declining. Therefore rainwater harvesting and aquifer recharge have become essential for ensuring the stability of supply. A nationally debated and accepted strategy for bringing 10 million hectares of new area under irrigation under the Bharat Nirman programme should be developed. Only dialogue and consensus building can reconcile different viewpoints regarding the development of large-scale water projects.

1.4.3.2 There is considerable scope for improving the efficiency of water use. It has been calculated that even a 10% increase in the present level of water use efficiency in irrigated projects may help to provide crop life saving irrigation in large areas. Higher efficiency can be achieved by generating synergy among water, variety, nutrients (macro and micro) and farm implements. The concept of maximizing yield and income per unit of water should become internalized in all crop production programmes.

1.4.3.3 Water quality also needs attention since water often gets polluted at source with fertilizers, pesticide residues and toxic chemicals. For example, the problem of arsenic poisoning in ground water continues because people residing in regions blessed with abundant surface water such as West Bengal increasingly depend on the groundwater for drinking and irrigation purposes. This dependency can be removed by making available other safe drinking water options. Effective management of surface water including rivers, canals, water bodies, lakes, ponds and rainwater can reduce groundwater dependency.

1.4.3.4 Besides problems relating to adequacy and quality, there are serious issues concerning equity in water distribution. The privatization of water supply distribution is fraught with dangers and could lead to water conflicts in local communities.

1.4.3.5 The following steps are needed for supply augmentation and demand management:

i) Rainwater harvesting and aquifer recharge should be mandatory and farmers must be provided with financial assistance to invest in the replenishment of their renewable resource. This is the imperative need for conservation farming.

ii) All existing wells and ponds should be renovated.

iii) Demand management through improved irrigation practices, including sprinkler and drip irrigation, should receive priority attention.

iv) A Water Literacy movement should be launched and regulations should be developed for the sustainable use of ground water.

v) The conjunctive use of rain, river, ground, sea, and treated sewage water should become the principal method for the effective use of available water resources and for increasing income per every drop of water.

vi) In water scarce areas, the land use system should place emphasis on the cultivation of high value – low water requiring crops, such as pulses and oilseeds.

vii) **A Pani Panchayat** in every village can help in getting the available water distributed on an equitable basis.

viii) Where large scale dislocation of families living in the areas which will be submerged as a result of the construction of large dams or linking of rivers is likely, the Gram Sabhas

of the affected villages should be involved in the preparation of rehabilitation plans. This should be done at the time the large dam or other steps like the interlinking of rivers are on the drawing board.

1.4.3.6 Water Users' Associations may be encouraged to gain expertise in maximizing the benefits of the available water. The National Rainfed Area Authority could help in promoting scientific water harvesting, sustainable and equitable use and the introduction of efficient methods of water use. There should be symbiotic interaction between the National Rainfed Area Authority, the National Horticulture Mission, the Technology Missions in oilseeds and pulses and the National Rural Employment Guarantee Programme.

1.4.3.7 Monsoon behaviour is often erratic. In drought prone areas, a **Drought Code** may be introduced which details the action needed to minimize the impact of an adverse monsoon and maximize the benefits of a good season. Similarly, in areas prone to heavy rainfall, a **Flood Code** may be introduced which will again mitigate distress and help convert the flood-free season into a major agricultural production period. In the arid areas of Rajasthan, a **Good Weather Code** may be introduced for taking advantage of occasional heavy rainfall for strengthening the ecological infrastructure essential for sustainable livestock production, drinking water security and sand dune stabilization. The National Rainfed Area Authority could provide technical leadership in the integrated preparation and application of Drought, Flood and Good Weather Codes.

1.4.4 Livestock

1.4.4.1 Livestock, including poultry, is the second major land-based livelihood, contributing 26% of the agricultural GDP in 2004-05. **It is clear that livestock and livelihoods are very intimately related in our country and that crop-livestock integrated farming is the pathway to farmers' well being.**

1.4.4.2 The ownership of livestock is much more egalitarian since resource poor farmer families own a majority of cattle, buffalo, sheep and goats. Women play a critical role in the care and management of livestock, but may not have ownership rights, and hence the cooperative model of production should be encouraged. The major constraints experienced by such families relate to fodder, feed, healthcare and remunerative price. There is an urgent need for establishing **Livestock Feed and Fodder Corporations at the State Level** for ensuring availability of quality fodder and feed. Such a Corporation should be a facilitating body for providing seeds and planting material of improved varieties to Self-help Groups (SHGs) for local level production. The productivity of our livestock is low and can be easily improved through better nutrition and healthcare. Agri-clinics operated by veterinary and farm science graduates will be very

helpful to enhance the income of livestock owners through higher productivity. At the same time, crop-livestock integrated farming systems should be promoted since this will not only help improve income and household nutritional security, but also facilitate organic farming. Livestock insurance also needs revamping and should be made accessible to small livestock owners.

1.4.4.3 A **National Livestock Development Council** may be established to give integrated attention to all aspects of this important sector, such as breeding policy, feed and fodder, healthcare through Para-veterinary professionals, marketing, value addition, biomass utilization (skin, bones and blood) and efficient use of animal energy, for example, through improved bullock carts.

1.4.4.4 In the case of poultry, the following steps are needed:

i) **Quarantine and testing facilities at all ports of entry should be established and strengthened** as such safeguards are absolutely necessary for the health and survival of the poultry industry and for the protection of lives and livelihoods.

ii) A 100% quarantine of all imported birds for a minimum period of six weeks should be enforced as done in other countries.

iii) Testing for safety and efficacy of imported poultry vaccines before they are allowed to be marketed as is done in the case of human vaccines, should be made compulsory.

iv) Poultry rearing should be recognized as an agricultural activity and appropriate support should be provided to backyard poultry farmers to establish Small Holders' Poultry Estates.

1.4.5 Fisheries

1.4.5.1 Both coastal and inland fisheries provide employment and livelihoods to millions of families. There is considerable scope for improving the income of fisher families on an environmentally sustainable basis by introducing Integrated Coastal Zone Management and scientific fish rearing, harvesting and processing. In the area of public policy, there is need for well-planned **Aquarian Reforms** in order to provide landless labour families access to village ponds and other water bodies in the public domain for aquaculture.

1.4.5.2 The establishment of a **National Fisheries Development Board** (NFDB) is a welcome step. The guiding principles for the NFDB should be ecology, economics, gender equity and employment generation. Such a Board should have representatives of fisher communities engaged in the capture and culture aspects of fish farming. It should setup an interdisciplinary

Task Force for preparing guidelines for aquarian reforms. In addition, resolution of conflicts in areas such as the following deserves urgent attention from the NFDB:

i) Conflicts between mechanized and artesinal fishing enterprises.

ii) Conflicts between aquaculturists and agriculturists as well as local population over salt water entering into the aquifer, and pollution caused by intensive systems of aquaculture.

iii) Lack of well-defined policies for the allocation of ponds and reservoirs to landless labour and *dalit* families for practising modern aquaculture based on composite fish farming.

iv) Concerns of environmentalists in the areas of sea weed farming and introduction of exotic carps and other alien invasive species.

1.4.5.3 Aquarian reforms should enable resource poor fisher and labour families to earn their livelihood from capture and culture fisheries in a sustainable manner. Other aspects of policy that need attention are:

i) "**Fish for All Training and Capacity Building Centres**" which can impart training to fisher families in all aspects of the capture/culture–consumption chain.

ii) Quality literacy to safeguard the harvested fish from *Salmonella* and other infections capable of producing mycotoxins.

iii) Mother Ships, which can ensure hygienic handling of the catch in mid-ocean.

iv) Small-size dredgers for ensuring the efficiency of fish landing centres.

v) Centralized services to support the decentralized capture and culture fisheries sectors.

vi) Special attention to the training needs of fisher women who handle the harvested catch.

vii) Inland aquaculture, including the culture of ornamental fish and air breathing fish, for additional income by providing necessary space in ponds and reservoirs.

viii) Artificial coral reefs to compensate for the loss of natural coral reefs to revive the fish catch.

ix) Integrated Coastal Zone Management Policy should pay concurrent attention to the management of about 10 km of land surface and 10 km of sea surface from the shoreline to ensure that land-based occupations do not cause damage to ocean fisheries as a result of release of effluents and other pollutants.

x) The coastal communities can also be enabled to raise bioshields comprising mangroves, *casuarina, salicornia, atriplex* and other halophytic plants, to safeguard the lives and livelihoods of coastal fisher and farm families in the event of cyclonic storms and seawater inundation, as for example like the one caused by **tsunami of December 26, 2004.**

xi) The National Aquaculture Authority and the NFDB should work together, so that capture fisheries and aquaculture become mutually reinforcing in improving the economic well-

being of fisher families and the nutritional well-being of consumers. In all structures, the special needs and concerns of women should be included and they be given representation.

xii) Fisher families can be trained to take up additional income-earning activities like poultry farming, fish pickle preparation, agar production, pearl oyster culture and other enterprises.

1.4.5.4 There is also need for a dynamic policy for the management and economic use of the Exclusive Economics Zone (EEZ) extending to nearly 2 million sq km of sea surface, which amounts to two-thirds of the land surface available to India. This can be a priority task of the NFDB.

1.4.6 Bioresources

1.4.6.1 Bioresources refer to the abundant wealth of flora and fauna including soil microflora and microfauna, which after land and water forms the third important natural resource available to farmers. The aim of the policy is to conserve as well as enhance these resources, to provide equitable access and lead to sustainable use with equitable sharing of benefits. Two major legislations are now in place to achieve some of the above aims.

1.4.6.2 The Plant Variety Protection and Farmers' Rights Act (PVPFR) was enacted in 2001. The Act recognizes the multiple roles of farmers as cultivators, conservers and breeders. Detailed guidelines should be developed for ensuring that the rights of farmers in their various roles are safeguarded. For example, most farmers who are cultivators are entitled to "Plant Back Rights". This implies that they can keep their own seeds and also enter into limited exchange in their vicinity. Farmers as breeders have the same rights as professional breeders and they can enter their varieties for registration and protection. Farmers as conservers are entitled to recognition and reward from both the National Gene Fund and the National Biodiversity Fund. Quite often, the conserved material of great value is the contribution of a community and not an individual. **Therefore the procedures adopted should be such that community contributions can be recognized and suitably rewarded**. The Gene and Biodiversity Funds should be used exclusively for recognizing and rewarding the contributions of tribal and rural women and men and for supporting the revitalization of the *in situ* on-farm conservation traditions of such communities.

1.4.6.3 Breeders should be required to indicate in the pedigree of the variety for which they are seeking protection, the names of the landraces and the areas from where they were collected, while submitting their application for registration.

1.4.6.4 The provisions in the Biodiversity Act (2002) for prior informed consent and benefit sharing are equally important for tribal and rural women and men. Invariably, much of the conservation work has been and is being done by women. Therefore the recognition procedures should take into account gender roles in the conservation and enhancement of bioresources. The gender mainstreaming of the implementation procedures of both the Acts is important. A gender audit provision may be introduced in the operation of both the Gene and Biodiversity Funds.

1.4.6.5 The following should be promoted:

i) Documentation of Traditional Knowledge (TK) should be done through Community Biodiversity Registers with the involvement of women, who hold much of this knowledge.

ii) Tribal and rural women and men should get support in revitalising their *in situ* on-farm conservation traditions.

iii) Participatory breeding procedures involving scientists and local conservers would be particularly helpful in improving the productivity of landraces.

iv) Genetic engineers working in public good institutions should perform the role of pre-breeding, i.e., development of novel genetic combinations for important economic traits, such as resistance to biotic and abiotic stresses. They should then work with farmers in participatory breeding programmes, so that genetic efficiency and genetic diversity can be integrated in an effective manner.

v) Genetic homogeneity enhances genetic vulnerability to pests and diseases, so the integration of pre-breeding and participatory breeding would help insulate small farmers from the risks of pest epidemics.

vi) A **genetic and legal literacy** movement must be launched in areas rich in agro biodiversity such as the North East, Western and Eastern Ghats and the Arid Zone.

vii) **Genome Clubs** can be organized in rural schools and colleges for imparting an understanding of the importance of genetic resources conservation.

viii) Legal literacy would help tribal and rural families understand the provisions of the PVPFR and Biodiversity Acts with reference to their entitlements.

ix) Farm and tribal families should be trained in methods of preventing gene erosion.

x) Coastal biodiversity, including coral reefs and sea grass beds is also in urgent need of conservation.

xi) Traditional methods of conservation like Sacred Groves need to be supported and encouraged.

xii) Herbal Biovalleys can be organized in the Western Ghats, Eastern Ghats, Vindhyas and Himalayan region for the conservation and sustainable use of medicinal plants. In such

Biovalleys, young farm women and men could be assisted through a form of venture capital and other support to take to the conservation, selection and multiplication of medicinal plants of value to health security.

xiii) A nationwide programme needs to be launched for the ex *situ* and *in situ* conservation of plant genetic resources at the field/farmer level. Farmer level Gene/Seed banks need to be setup in areas where traditional varieties are in danger of extinction. Some State Governments are promoting a "Seed Exchange Programme" under which farmers are given hybrid rice in exchange for their traditional rice varieties. There is need to ensure that in this process, the traditional rice gene pool is not lost. Participatory management of National Parks, Biosphere Reserves and Gene Sanctuaries should be promoted.

1.4.7 Animal Genetic Resources

1.4.7.1 The burden of conservation of genetic resources cannot be allowed to fall on the largely impoverished communities which maintain animal genetic diversity. A system of rewards and incentives must be developed to enable and motivate people to conserve their breeds under the Biodiversity Act. The Biodiversity Fund should be used for such purposes. Livestock keepers' inherent rights to continue to use and develop their own breeding stock and breeding practices should be acknowledged. The government must recognise these rights, acknowledge livestock keepers' contribution to the national economy, and adapt its policies and legal frameworks accordingly. This is particularly important to pre-empt attempts to use the intellectual property system to obtain control over animal resources which are an important component of the country's food and livelihood security systems.

1.4.7.2 Apart from conserving genetic diversity and acknowledging the vital role of livestock keepers, there is a need to document the indigenous knowledge of pastoral communities about animal maintenance and breeding. Community-based conservation and development of indigenous livestock breeds and species should be encouraged, with a special focus on both hot and cold arid and semiarid areas where the genetic diversity and associated indigenous knowledge are particularly well developed. State Farms could be used to promote *in situ* conservation of animal breeds, even those that are amenable to ex *situ* conservation. Grazing lands must be earmarked to enable the conservation of animal genetic resources. Documentation of special traits should be done in the context of the new biology and new nutritional needs or for other economic traits like hide/ leather quality. Offshore Quarantine Centres should be developed for screening germplasm for resistance to serious diseases like the H5N1 strain of avian influenza virus.

1.4.7.3 In Brazil and other Latin American countries as well as in Africa, there is a demand for Indian breeds of cattle and buffaloes. Animal Science Graduates and SHGs may be encouraged

to maintain pedigree animals of these breeds for the purpose of developing export opportunities. However, export of all biological material including animals should be done in strict accordance with the provisions of the Biodiversity Act.

1.5 Support Services

1.5.1 Science and Technology

1.5.1.1 Science and Technology are the drivers of change in farm operations and output. New technologies, which can help enhance productivity per unit of land and water, are needed for overcoming the prevailing technology fatigue. Frontier technologies like biotechnology, information and communication technology (ICT), renewable energy technologies, space applications and nanotechnology provide opportunities for launching an "evergreen revolution" capable of improving productivity in perpetuity without ecological harm. Similarly, the use of remote sensing technology can help identify borewell sites on farmers' fields. In order to ensure social inclusion in access to new technologies, public investment in socially relevant agricultural research should be stepped up under the umbrella of the National Agricultural Research System (NARS), which comprises large numbers of ICAR institutions, State Agricultural Universities, All India Coordinated Research Projects and National Bureaus. NGO and private sector R & D institutions should also be included under the NARS umbrella.

1.5.1.2 The research strategy should be pro-nature and pro-small farmer. For example, in the case of Bt cotton, public good institutions should concentrate on developing varieties rather than hybrids, so that farmers can keep their own seeds. Even now 80% of the seeds used in agriculture come from farmer-seed systems. Community managed Seed Villages and Seed Technology Training Centres are needed, with women playing the major role because of their traditional knowledge of seeds and seed management, especially in tribal communities. Scientific literacy and removing doubts and fears about the risks and benefits associated with biotechnology and other new technologies can be done by one woman and man selected by each Panchayat and trained with the help of agricultural / animal sciences universities. They will serve as Farm Science Managers in their respective villages.

1.5.1.3 The safe and responsible use of recombinant DNA technology or genetic engineering will need credible and capable regulatory mechanisms. A National Biotechnology Regulatory Authority should be setup for this purpose, with farmers' representatives on it. It should be autonomous and professionally-led so that risks and benefits can be assessed objectively. **The bottom line for any biotechnology regulatory policy should be:**

i) The safety of the environment

ii) The well-being of farming families

iii The ecological and economic sustainability of farming systems

iv) The health and nutrition security of consumers

v) Safeguarding of home and external trade, and

vi) The biosecurity of the nation.

1.5.1.4 There is urgent need for stepping up breeding crop varieties, particularly fruits and vegetables, for processing quality. Also, research on breeding crops for high yield in an environmentally safe manner needs strengthening.

1.5.1.5 Organic farming requires greater scientific inputs than chemical farming. Hence, this area of research needs high-level multidisciplinary attention. Farmers feel the need for technological guidance, but research work based on careful field experiments is currently inadequate. Crop-livestock-cum-fish integrated production systems offer scope for the adoption of the principles and methods of organic farming.

1.5.1.6 In intensively cultivated mono-crop areas, crop diversification may be beneficial from the points of view of ecology, economics and employment generation. **However, steps to ensure effective market support for the alternative crops must accompany any advice on crop diversification.** In planning for crop diversification, particularly from food to non-food crops, such as for the production of biofuels, the food security of the nation should be kept in view.

1.5.1.7 Intellectual Property Rights (IPR) policies should make provision for compulsory licensing of rights in the cases of research products and processes of value to resource-poor farming families. In all cases of health and food security, social inclusion should be the guiding factor in the development of IPR.

1.5.2 Agricultural Biosecurity

1.5.2.1 Agricultural Biosecurity covering crops, trees and farm and aquatic animals is of great importance since it relates both to the work and income security of 70% of the population, and food and trade security of the nation. The **National Agricultural Biosecurity System (NABS)** should have the following aims:

i) Safeguard the income and livelihood security of farmer families, as well as the food, health and trade security of the nation, through effective and integrated surveillance,

vigilance, prevention and control mechanisms designed to protect the productivity and safety of crops, farm animals, fishes and forest trees.

ii) Enhance national and local level capacity in initiating proactive measures in the areas of monitoring, early warning, education, research, control and international co-operation

iii) Introduce an integrated biosecurity package comprising regulatory measures, education, improved sanitary and phytosanitary measures and social mobilization.

iv) Organize a coordinated **National Agricultural Biosecurity Programme** on a hub and spokes model, with effective home and regional quarantine facilities capable of insulating the major agro-ecological and farming systems zones of the country from invasive alien species of pests, pathogens and weeds as well as from the introduction and release of GMOs.

1.5.2.2 The NABS should have the following three mutually reinforcing components:

i) **National Agricultural Biosecurity Council (NABC),** chaired by the Union Minister for Agriculture, to serve as the apex policymaking and coordinating body

ii) **National Centre for Agricultural Biosecurity (NCAB),** with four wings dealing with crops, farm animals, living aquatic resources and agriculturally important micro-organisms. It should be concerned with analysis, aversion and management of risks, as well as the operation of an early warning system. The NCAB will provide the Secretariat for the NABC.

iii) **National Agricultural Biosecurity Network (NABN):** The NCAB will also serve as the coordinating and facilitating center for a National Agricultural Biosecurity Network designed to facilitate scientific partnerships among the existing institutions in the public, private, academic and civil society sectors engaged in biomonitoring, biosafety, quarantine and other biosecurity programmes to maximize the benefits available to scientific expertise and institutional strengths.

1.5.3 Agro-meteorology

1.5.3.1 The national capacity in short, medium and long-term weather forecasting is quite considerable. Generic information about weather has to be turned into location- specific land use advice, based on cropping patterns and water availability. Panchayat level Farm Science Managers, trained to give appropriate land use suggestions, can use the Agro-meteorological Advisories issued by Indian Agromet Advisory Service Centre, Pune. There should be a **National Land Use Advisory Service** that gives proactive advice to help farm families plan their sowing based on anticipated meterological and marketing factors. In the case of marine fisheries, data available on wave heights and location of fish shoals should be transmitted to the fishermen before they move into the sea. An integrated internet-FM or HAM radio service would be very helpful to fishermen on the high seas.

1.5.4 Climate Change

1.5.4.1 Climate change leading to adverse changes in temperature, precipitation and sea level is no longer just a theoretical possibility. Most experts agree that we are already beginning to experience the impact of global warming as evident from the melting of glaciers and Antarctic and Arctic ice caps. Coastal storms and cyclones are also increasing in frequency and intensity. Droughts and floods are likely to be more frequent. Although climate change is a product of the unsustainable consumption of non-renewable forms of energy by industrialized countries, the harmful impact of climate change will be felt more by poor nations, and the poor in all nations, due to their limited coping capacity. Proactive measures to reduce the vulnerability to climate change have to be developed. Based on computer simulation models, contingency plans and alternative land and water use strategies will have to be developed for each major agro-climatic zone. In drought and flood prone areas, experienced farm women and men can be trained as "Climate Managers", in the art of managing drought, flood and aberrant monsoons.

1.5.5 Inputs and Services

i) **Seeds**: Good quality seeds and disease free planting material, including in vitro cultured propagules, are essential for crop productivity and security. Hybrids are now becoming available in many crops. Women SHGs can produce hybrid seeds on contract for seed companies, with proper technical guidance and training in seed technology. In the case of new varieties, foundation seeds could be provided to SHGs. Mutually beneficial farmer-seed company partnerships can be fostered. Agricultural Universities should organize courses on Seed Technology and Business and mainstream business principles in all applied courses.

ii) **Soil Health**: **Soil Health Enhancement holds the key to raising small farm productivity.** Every farm family should be issued with a Soil Health Passbook, which contains integrated information on the physics, chemistry and microbiology of the soils on their farm. More laboratories to detect specific micronutrient deficiencies in soils are urgently needed. Soil organic matter control will have to be increased by incorporating crop residues in the soil. Proper technical advice on the reclamation of wastelands and on improving their biological potential should be available. Pricing policies should promote a balanced and efficient use of fertilizers.

iii) **Pesticides:** The triple alliance of pests, pathogens and weeds causes crop losses ranging from 10 to 30 per cent every year. The development, introduction and diffusion of environmentally safe and effective pesticides should be given priority. There is need for incorporating the use of chemical pesticides in an Integrated Pest Management (IPM) system. Farmers need training in crop care and IPM. Suitable quality control, safety evaluation and other regulatory systems should be strengthened. The sale of spurious and substandard pesticides should be prevented. Botanic pesticides should be promoted. In each block, breeders, farmers, pesticide manufacturers and extension personnel could form a Crop Care Consortium.

iv) **Implements**: Small farmers need implements for timely sowing, management of weeds and improved post-harvest technology. This need is particularly great in hill areas. Women especially need women-friendly implements / tools which can reduce drudgery, save time and enhance output and can be handled comfortably. Farm graduates can provide tractors and other larger farm implements on a custom-hire basis by organizing Agri-business Centres.

v) **Vaccines and Sero-diagnostics**: Major gaps in the facilities presently available will have to be filled in the case of important animal diseases. Biotechnology research in the area of vaccine development needs to be stepped up. Public-private partnerships should be encouraged in this area.

vi) **Fish Seed and Feed**: Good quality and disease-free fish seed holds the key to successful inland aquaculture. SHGs could be trained in induced breeding and fish seed production. Feed at affordable prices is another requirement. Fish farmers' cooperatives could organize the production of both feed and seed, with technical assistance from the National Fisheries Development Board.

vii) **Animal Feed**: Inadequate nutrition is the primary cause of low milk yield in dairy animals; where both under-nutrition and malnutrition can be seen. Annual milk production in the country can reach over hundred million tonnes if the nutritional requirements of cows and buffaloes are met. Here both conventional and non-conventional approaches are needed. Many of the cellulosic wastes can be converted into good animal feed through appropriate treatment and enrichment. Planting of nutrition rich fodder plants should receive high priority. Established technologies such as baling and ensiling, need to be disseminated widely.

viii) Other essential support services needed for higher farm animal productivity are: establishing genetic evaluation systems for indigenous breeds as well as crosses, so that selection can lead to genetic improvement of production characteristics; upgrading of breed through artificial insemination; cross breeding suited to the farmers' resources; and improved processing and marketing. The livestock sector has to become sanitary and phytosanitary compliant. A cadre of Para-veterinarians will have to be trained. They will help promote early detection and treatment of diseases and other veterinary services.

ix) The Wildlife Protection Act, 1972, should permit the right of farmers to protect their crops by killing wild boars and *nilgai*, whenever there is no other option for saving crops.

x) Free grazing of cattle during the *rabi* season is a major bottleneck to farmers for the taking of a second crop and should be curtailed by the Gram Panchayat.

xi) **Support Services for Women:** Women suffer from a multiple burden on their time due to their home making, child rearing, and income earning responsibilities. When they work the whole day in fields and forests, they need appropriate support services like crèches and child care centres. Adequate nutrition is also important. A **Gram Panchayat Mahila Fund** should be established to enable SHGs and other women's groups to undertake community activities that help to meet essential gender-specific needs. The

feminisation of agriculture, due to male out-migration, needs specific attention with reference to gender-sensitive farm and credit policies. All research, development and extension programmes in agriculture, and all services must be engendered.

1.5.6 Credit and Insurance

1.5.6.1 The need is to improve the outreach and efficiency of the rural banking system. The financial services must reach all its users effectively; the credit must be in time, in required quantities and at appropriate interest rate. The interest rate should be as low as possible. It should be possible to bring about a reduction in transaction cost by eliminating all forms of waste and inefficiency in the operation of the banking system. The inefficiencies of the delivery system should not be loaded on the interest charged. The delivery system has to be proactive and should respond to the financial needs of clients in the rural areas. The banking system needs to explore the large unmet credit potential needed to raise agriculture to higher thresholds, and for the growth of rural and agri-business enterprises and employment.

1.5.6.2 The State has a responsibility towards improving the credit absorptive capacity of the farmers and to support the banking system by creating favourable environment for expanding and deepening of financial services.

1.5.6.3 NABARD as the leader of agriculture and rural credit should ensure, convergence between credit availability and credit absorptive capacity of the farmers and other rural borrowers, and an efficient credit delivery system. NABARD should actively involve itself in institution building and provide backup support through research and development initiatives. NABARD should function like a National Bank for Farmers. There is a need for a fresh look at its mandate, role and business model after about 25 years of its establishment and vastly changed circumstances.

1.5.6.4 The Reserve Bank and Government of India have to broadly assign the roles and responsibilities to different agencies in the multi-agency system and ensure implementation of their policies and programmes. There is a **need for an Agriculture Credit Policy.** The credit cooperatives have an important position in the rural financial system and priority should be given to the implementation of the recommendations of the Vaidyanathan Committee.

1.5.6.5 Agriculture is a high-risk economic activity. Credit without insurance is an added risk factor. Farmers need user-friendly insurance instruments covering production, right from sowing to post-harvest operations and also to cover the market risks for all crops throughout the country, in order to insulate them from financial distress and in the process make agriculture

financially viable. Satellite imagery and agro-climatic analyses can play a significant role in evaluating the extent of crop losses and thus speed up the process of settling claims.

1.5.6.6 There is a need for both credit and insurance literacy in villages. *Gyan Chaupals* can help in this task.

1.5.6.7 Women need special attention because of their lack of land title/collateral. Kisan Credit Cards should be issued to women speedily with joint *pattas* to house / agricultural land as collateral. Till then, indemnity bonds/guarantees should be accepted from husband, male relatives and prominent local figures.

1.5.6.8 Drought prone areas should have a 4-5 year repayment cycle for crop loans, taking into account the management of risk.

1.5.7 Cooperatives

1.5.7.1 Besides their role in production, cooperatives have an important role to play in banking, marketing, agro-processing and other agri-businesses, to protect the farmers from the vagaries of existing imperfections in the supply of inputs, production, value addition and marketing. Cooperatives are basically economic enterprises [not an extended arm of the State]. They require entrepreneurial approach, gather competitive edge through suitable enterprise focus and form suitable strategic alliances with private and public sector units. The need is to find means and measures by which farmers can obtain greater control of the market channels and improve their chances of profit.

1.5.7.2 The policy and legal framework under which cooperatives are functioning need to be reviewed so as to create an enabling environment for them to attain autonomy and run their operations in business-like fashion without rigid controls and regulations imposed by the State laws. They have to become voluntary, member-driven, autonomous and largely self-regulating organisations working on the principles of self-help. The management of the cooperatives needs to be professionalized with clear demarcation of functions of the elected members and the professional managers. The audit and accounting systems have to be improved and made transparent so as to give greater confidence to all those who are associated with them.

1.5.7.3 With economic liberalization and market competitiveness, cooperatives would require much larger capital and other financial resources. The changes in legal framework and regulatory system would help gain greater access to capital/financial resources.

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1.5.8 Extension, Training and Knowledge Connectivity

1.5.8.1 There is a growing gap between scientific know-how and field level do-how. This knowledge deficit should be overcome speedily in order to enhance the productivity and profitability of small farms and launch a Small Farm Management Revolution. Post-harvest technology wings must be added to Krishi Vigyan Kendras urgently and lab to land demonstrations in the area of post-harvest technology, agro-processing and value addition to primary products must be taken up to provide skilled jobs in villages to landless labour families. In addition to the retraining and retooling of existing extension personnel, there is a need to promote farmer to farmer learning. For this purpose, Farm Schools may be established in the fields of outstanding farmers and awardees of nationally recognized awards for farmers. Farmer-to-farmer learning can speed up the process of technological upgrading of crop and animal husbandry, fisheries and agro-forestry. Farm Schools can also be setup in the fields of eminent horticulturists including those who are raising organic vegetables and fruits and tissue culture propagated planting material.

1.5.8.2 The help of ICT should be harnessed by establishing a *Gyan Chaupal* in every village. The Common Service Centre (CSC) programme of the Department of Information Technology (DIT), Government of India, should aim at social inclusion in the use of this important technology. The structure of the ICT based knowledge system will be as follows:

i) **Block level**: Village Resource Centre (VRC) established with the help of the Indian Space Research Organisation.

ii) **Village level**: *Gyan Chaupals* established with the help of the CSC Programme of the D I T.

iii) **Last mile and the last person connectivity**: This can be accomplished through either internet – community radio or internet – mobile phone synergy.

1.5.8.3 Empowering rural women and men with the right information at the right time and place is essential for improving the efficiency and economics of small scale agriculture. Mass media, particularly the radio, television and local language newspapers, have an important role to play in this area.

1.5.9 Social Security

1.5.9.1 Coverage of farmers, particularly small and marginal farmers and landless agricultural workers, under a comprehensive National Social Security Scheme is essential for ensuring livelihood security. Such a scheme should take care of expenses upto a ceiling for hospitalization in case of illness of a family member, maternity, life insurance and old age pension. This should also include protection from occupational hazards. In addition, the subsistence allowance

for fisher families during the "closed season" period should be at least Rs.1500 per month. The Government should take necessary action to have such a comprehensive scheme in place for the farmers in unorganized sector in order to ensure the livelihood security of farm families. At the very minimum, the recommendations of the Arjun Sengupta Commission for Enterprises in the Unorganised Sector may be suitably adapted to the needs of farmer families.

1.5.10 Assured and Remunerative Marketing Opportunities

1.5.10.1 Assured and remunerative marketing opportunities hold the key to continued progress in enhancing farm productivity and profitability. The Union Ministry of Agriculture has already initiated several significant market reforms. The State Governments will have to undertake such reforms speedily in order to provide more options to the farmers for selling their produce, allowing the private sector, including the cooperatives, to develop markets, promote direct sales to consumers and remove bottlenecks and scope for corruption and harassment. What farmers seek is greater protection from market fluctuations. Important steps needed are:

i) The Minimum Support Price (MSP) mechanism has to be developed, protected and implemented effectively across the country. MSP of crops needs to keep pace with the rising input costs.

ii) The Market Intervention Scheme (MIS) should respond speedily to exigencies especially in the case of sensitive crops in the rainfed areas.

iii) The establishment of Community Foodgrain Banks would help in the marketing of underutilized crops and thereby generate an economic stake in the conservation of agro-biodiversity.

iv) Indian farmers can produce a wide range of health foods and herbal medicines and market them under strict quality control and certification procedures.

v) The Public Distribution System (PDS) **should be universal** and should undertake the task of enlarging the food security basket by storing and selling nutritious millets and other underutilized crops.

1.5.10.2 Farmers require authentic advice based on meteorological, marketing and management information for land use decisions and investments. Restructured Land Use Boards supported by a team of technical experts/agencies should render this service. Infrastructure support has to be put in place to minimize post-harvest losses and enable agro-processing and value addition at the village level itself to increase jobs and income. The collective strength of farmers has to be built up by encouraging farmers' organizations and other entities like cooperatives and small farmers' estates so that they can get a fair deal and enjoy the economies and power of scale. Farmers, particularly the small and marginal ones, need pledge loans to be able to avoid distress sale and sell their produce when the price is favourable. Constraints in improving the negotiability of warehouse receipts also need to be removed.

1.5.10.3 There is need for an Indian Trade Organisation (ITO), that will safeguard the interests of farmer families by establishing a Livelihood Security Box to ensure fair trade. The Livelihood Security Box should have provision to impose quantitative restrictions on imports and or/ increases in import tariffs, under conditions where imports of certain commodities will be detrimental to the work and income security of large numbers of farming families. It should be emphasized that **there is no level playing field between the capital, subsidy and technology driven mass production agriculture** of the industrialized countries, and the **"production by masses"** agriculture of India characterized by weak support services, heavy debt and "resource and technology poverty". An **Indian Single Market** will also help to promote farmer-friendly home markets. The bottom line of our trade policies in agriculture should be the economic well-being and livelihood security of agricultural families. Nothing should be done that will destroy job opportunities in rural India.

1.5.10.4 In relation to commodities that are exported, it will be essential to conform to WTO regulations. At present, such commodities constitute about 7% of total agricultural production in the country. Quality and trade literacy programmes have to be launched across the country.

1.5.10.5 Farmers' Associations and SHGs should be helped to export on competitive terms by spreading awareness of the opportunities available for external agricultural trade. The agri-export zones should be further strengthened and should become places where farmers will get the best possible price for their produce. The future of Indian agriculture will depend upon the efficiency and seriousness with which pro-farmer marketing systems are put in place.

1.5.10.6 The twin goals of ensuring justice to farmers in terms of a remunerative price for their produce, and to consumers in terms of a fair and affordable price for staples (65% of consumers are also farmers) can be achieved through the following integrated strategy:

i) The MSP and procurement operations are two separate initiatives and should be operated as such. The Government needs to ensure that both the farmers (who also constitute the majority of consumers) and the urban consumers get a fair deal. Due care should be taken of the cost escalation after the announcement of the MSP in its operationalisation. The Government should procure the staple grains needed for the PDS at the price private traders are willing to pay to farmers. Thus, the procurement prices could be higher than the MSP and would reflect market conditions. The MSP needs to be protected in all the regions across the country.

ii) The food security basket should be widened to include the crops of the dry farming areas like ***bajra, jowar, ragi,*** **minor millets** and **pulses**. The PDS should include **these nutritious cereals and pulses purchased at a reasonable MSP**. This will be a win-win situation both for the dryland farmer and the consumer. **We will witness neither a**

second green revolution nor much progress in dryland farming unless farmers get assured and remunerative prices for their produce.

iii) Both universal PDS and enforcing MSP throughout the country for the selected crops are essential for imparting dynamism to agriculture.

1.5.10.7 The Commission on Agricultural Costs and Prices (CACP) should be an autonomous statutory organization with its primary mandate being the recommendation of remunerative prices for the principal agricultural commodities of both dry-farming and irrigated areas. The MSP should be at least 50% more than the weighted average cost of production. The "net take home income" of farmers should be comparable to those of civil servants. The CACP should become an important policy instrument for safeguarding the survival of farmers and farming. Suggestions for crop diversification should be preceded by assured market linkages. The Membership of the CACP should include a few practising farm women and men. The terms of reference and status of the CACP need review and appropriate revision.

1.6 Curriculum Reform

1.6.1 Agricultural / Animal Sciences Universities

1.6.1.1 The goal of these universities should be "**every scholar an entrepreneur**". This will call for integrating business management principles with major applied courses. Also, the Farm Universities should engender their curricula in a manner that the relative roles of women and men in farming are recognized and they are equally empowered technologically. The Home Science Colleges of Universities should be restructured as **College of Human Sciences** with both male and female scholars mastering disciplines like nutrition and post-harvest technology. A network of **Regional Institutes on Food Safety and Security** needs to be setup to promote safe handling of food and a quality literacy movement in villages. This will also help to strengthen our capacity to deal with sanitary and phytosanitary measures and Codex Alimentarius standards of food safety.

1.6.1.2 A system for according recognition to Farm Graduates to provide extension and other services by recognizing them as **Registered Farm Practitioners** should be developed. An **All India Agricultural Council** on the model of the Medical and Veterinary Councils is required to give such accreditation, which will also be an oversight mechanism to ensure the quality and credibility of the services provided by farm practitioners. A few **Centres of Excellence in Agriculture** (Crop and Animal Husbandry, Fishery and Forestry) on the model of the IITs and IIMs, should be established to enhance competitiveness of the graduates. Taking into account the new opportunities opened up by ICT, new **pedagogic methodologies** should be introduced

for promoting a learning revolution among our students. University centres should also establish employment and business advisory services and a special **one-stop window** for generating awareness on self-employment opportunities.

1.7 Special Categories of Farmers

1.7.1 Tribal Farmers

1.7.1.1 Scheduled Tribes account for 8.6% of the total population of the country. A majority of tribal communities across the country are dependent on forests and animal

husbandry for their livelihoods. These include cultivation (shifting cultivation in many cases), collection of fuel, fodder and a range of non-timber forest produce. Tribal farmers are among the most disadvantaged category of farmers.

1.7.1.2 These communities have customary norms for ownership of the forest areas and also have community-based mechanisms for protection and rejuvenation. At the same time, the responsibility for the protection and conservation of forests area has been under the control and administration of the State Forest Departments. There has been no systematic effort to demarcate areas that are used and managed by forest dwelling communities, or to provide legal rights and titles to these communities. The relation between the Forest Department and forest dwelling communities has largely been one of conflict and confrontation, with the latter being labelled 'encroachers'. Forest communities are often forced to eke out their livelihoods through a pattern of bribes and fines. Attempts towards Joint Forest Management have been successful in some States but are dispersed and have not generally been gender sensitive.

1.7.1.3 Large development projects, including dams and mines, have encroached upon vast tracts of forest areas and displaced several thousand forest dwelling communities who are still struggling to survive in the absence of human-centred rehabilitation efforts. In most instances, in the absence of land titles, their very existence is not acknowledged.

1.7.1.4 Management of forest areas in the country will have to balance the demands for ecological conservation with protecting the livelihoods of forest dwelling communities. The following steps will be helpful in this respect:

i) A clear statement of rights relating to what has traditionally been the domain of forest dwellers (both tribal and non-tribal) including lands traditionally occupied and resources traditionally used.

ii) A clear process by which legitimate land rightholders can be identified and recorded, and conversely, by which recent encroachers, and others who have been taking advantage of forest dwellers for vested interest, can be identified and removed.

iii) Explicit provisions to ensure conservation, including priority to provisions of wildlife/ biodiversity/forest laws which are meant to ensure conservation, with special focus on protected areas and threatened species.

iv) Strengthening changes in institutional structures to enable more participatory processes in decision-making.

v) Explicit provisions that enable forest-dwelling communities to say 'no' to, or seek changes in, 'development' projects that are impinging on their lands and resources.

vi) Provisions for regular and open processes of dialogue, consultation, and sharing of information, involving communities, NGOs, officials, and others.

vii) Clear monitoring provisions that enable a constant check on whether the rights are being honoured or not, as also whether the exercise of rights is respecting conservation parameters.

1.7.1.5 An important area of conflict between people and protected areas is the problem of compensation for damage caused to livestock, crop or life by animals. States must review the provisions and procedures for compensation for human life, livestock and crop damage. Compensation must be paid to affected families who continue to live within the reserves also. The joint forest management programme in the vicinity of the reserves must be revamped so that people living on the fringes can be given management decisions and rights over the produce of forests; this will help to enhance the productivity of the resources as well.

1.7.1.6 Other issues are:

i) Vesting of land in the community, absence of alienable rights with the farmers and the problems in creation of charge/mortgage on land in certain tribal areas constrain flow of institutional credit. The need is to develop innovative methods of collateral substitution and documentation procedures to overcome the difficulties.

ii) Tribal families have conserved rich agro-biodiversity. Many traditional crops are now disappearing. Both dying crops and dying wisdom will have to be saved by creating an economic stake in conservation.

1.7.2 Pastoralists

1.7.2.1 The Draft Scheduled Tribes (Recognition of Forest Rights) Bill, 2005 envisages, "rights of use or entitlements such as grazing in forests and traditional seasonal resource access of nomadic or pastoralist communities". This Act is yet to be passed by Parliament. Many of the Joint Forest Management Committees are designed to provide opportunities to tribal families

and pastoralists for access to non-timber forest products. The following steps are needed to ensure the livelihood rights of pastoralists:

i) Restoration of traditional grazing rights and camping rights in forest areas including wildlife sanctuaries and national parks, and also those areas earmarked for grazing purpose in village common lands.

ii) Formalizing entitlements (including issue of permanent grazing cards) for traditional pastoralists / herders maintaining native animal breeds to enable free access to notified or demarcated grazing sites and migration routes.

iii) Whenever a tree planting programme is to be implemented, alternative grazing land and drinking water resources for animals should be allotted by the concerned authorities. It should be mandatory for the implementing agency before initiating afforestation to seek prior consent from forest dependent communities including pastoralists. Rotational system of grazing should be encouraged instead of complete closing of forest zones for tree plantation purpose.

iv) In-depth documentation and characterization of indigenous livestock breeds should be carried out to recognize and protect the IPR of the local communities / individuals conserving these livestock breeds.

v) Pastoralists should be involved in all local natural resource management programmes, including village forest committees.

vi) Common land assigned to Forest Departments and unutilized or encroached land should be retrieved and brought under the control of village level committees or grassroots institutions for pasture development.

1.7.3 Other Categories

1.7.3.1 Besides the above two groups, there are several small groups with distinct and special needs such as small plantation farmers, island farmers and urban farmers.

Plantation Labour

1.7.3.2 A large number of small farmers are engaged in the cultivation of plantation crops like tea, coffee, rubber, cardamom, pepper and vanilla. Price fluctuation and competition from products imported from abroad are among the major problems facing them. A Price Stabilization Fund will help insulate them from the vagaries of the market.

Island Farmers

1.7.3.3 The farming and fisher families in Andaman and Nicobar Islands and the Lakshadweep group of Islands need special attention including technology, training, techno-infrastructure

and trade. Island agriculture also has the problem of transport costs, particularly for perishable commodities like fish which may have to be sold in the main land. Ancient tribes in the Andaman and Nicobar Islands have rich traditional knowledge and wisdom. Steps should be taken to recognize and reward their indigenous knowledge in the areas of biodiversity conservation and traditional healthcare. The islands are also ideal for horticulture including coconut plantation, but have special health problems. Therefore both the National Horticulture Mission and National Rural Health Mission should pay particular attention to the needs of island farmers and fishermen. The creation of mangrove and non-mangrove based bioshields should be initiated to safeguard the lives and livelihoods of island populations in the event of sea level rise due to global warming and calamities like tsunami.

Urban Farmers

1.7.3.4 Urban home gardens could make a substantial contribution to improving nutrition security through the cultivation and consumption of vegetables and fruits. Home nutrition gardens could be designed for low income groups in such a manner as to provide horticultural remedies to major nutritional maladies. Support services in the form of good seeds and planting material and safe plant protection techniques will be needed. Urban slums need particular attention from the point of view of combating malnutrition through nutrition gardens.

1.8 Special Categories of Farming

1.8.1 Organic Farming

The organic farming movement in India suffers from lack of adequate institutional support in the areas of research, extension and marketing. Organic farming requires more scientific support than chemical farming. Krishi Vigyan Kendras should be equipped to provide training in organic agriculture. Internationally accepted certification procedures also need strengthening and must be farmer-friendly and affordable. Organic farming zones could be identified, like some of the hill areas and islands where currently chemical fertilizer use is very low, and for medicinal plants where the use of chemical pesticides and fertilizers is not advisable. Food safety and quality specifications should conform to the Codex Alimentarius standards since there are occasional reports of heavy metals being present in organic foods. Subsidies or loans similar to those given to farmers to buy chemical fertilizers / pesticides should be available for organic manures like farm yard manure, compost and biofertilizers and biopesticides also. Farmers engaged in organic farming should be linked to niche markets where they will obtain a premium price, in order to compensate for any loss in yield.

Farm graduates may be supported for establishing agri-clinics and agribusiness centres for organic farming.

1.8.2 Green Agriculture

Green Agriculture involving integrated pest management, integrated nutrient supply, scientific water management, integrated natural resources management and improved post harvest technology, is the pathway to an "Evergreen Revolution". Unlike in organic farming, green agriculture permits the safe and minimal use of mineral fertilizers and chemical pesticides as well as crop varieties developed by genetic modification. Green agriculture products also should have distinct labelling as in the case of organic farming.

1.8.3 Genetically Modified (GM) Crops

The establishment of a professionally-led National Biotechnology Regulatory Authority will help the assessment of risk and benefits associated with GM crops in a credible and transparent manner. It is important that priority is given in genetic modification to the incorporation of genes, which can help impart resistance to drought, salinity and other stresses. Water use efficiency as well as improvement of both nutritive and processing quality should also be accorded priority in the research agenda. The village-level Farm Science Managers to be trained in each Panchayat could be introduced to the agronomic management procedures in respect of GM crop varieties, such as the cultivation of a refuge of the old variety in order to prevent the loss of resistance in the GM variety caused by mutations in the pests and pathogens.

1.8.4 Protected (Greenhouse) Agriculture

With the rapid growth of horticulture, there is opportunity for green house cultivation of vegetables, fruits and flowers supported by economic methods of water and fertilizer use such as fertigation. Support may be given to farm and home science graduates to take to green house horticulture under the agribusiness programme and the National Horticulture Mission. Low cost green houses along with micro-irrigation and fertigation techniques may be popularized in areas where evaporation exceeds precipitation during several months in a year. Suitable support should be given for such technologies, which can help to increase income in water deficit areas.

1.9 Special Regions

1.9.1 Distress Hotspots

Several steps have already been taken to mitigate agrarian distress and it is important that special attention is paid to such areas from the point of view of spreading low risk and low external input sustainable agricultural practices. Opportunity for remunerative marketing is a must. It is also important that in such areas, knowledge connectivity and social support systems are strengthened.

1.9.2 Megabiodiversity Areas

Biodiversity rich areas occur in Western and Eastern Ghats and the eastern Himalayan region. Local communities should be involved in the conservation of megabiodiversity areas and their contributions should be appropriately recognized and rewarded. Steps should also be taken to enable local communities in megabiodiversity areas to convert bioresources into economic wealth in a sustainable manner. A movement for 'Biodiversity for Biohappiness', may be launched with the help of local research and educational institutions.

1.9.3 Islands

The Andaman and Nicobar Islands and the Lakshadweep Group of Islands offer great potential for improving the income of farmer families. Greater attention is needed to plantation crops and coconut, rainwater harvesting and agro-processing facilities. The coastal ecosystems rich in mangroves and coral reefs should be protected. The youth in such islands can be trained in the science and art of natural resources conservation and enhancement. Mixed cropping and crop-livestock integrated farming systems are ideal for such islands. The Lakshadweep group of islands can also be the home for offshore quarantine facilities.

1.10 Farmers of the Future

1.10.1 The slow growth of opportunities in the non-farm employment sector has led to the proliferation of tiny and economically non-viable holdings. **Increase in small farm productivity and creating multiple livelihood opportunities through crop-livestock integrated farming systems as well as agro-processing and value addition to biomass have become urgent tasks for increasing farmers' income.** Methods of providing the power of scale to small farmers will have to be developed and popularized on a win-win basis for all concerned to enhance yield and income. Women can participate in such group activities only if they are given dignity of

recognition as owners and farmers. The following are some of the methods that small and marginal farmers could consider for gaining in efficiency and economy:

i) **Cooperative Farming and Service Cooperatives** – In the early 5-year Plan periods, there was much emphasis on cooperative farming. This did not take off due to both socio-cultural and policy hurdles. It is clear that small farm families will benefit from cooperation, even if they do not form cooperative societies. Service cooperatives have been successful in the case of the dairy industry. Marketing cooperatives are generally successful since members cooperate on the basis of enlightened self-interest. Other forms of service cooperatives are slowly emerging, but the pace needs to be accelerated. For example, there is scope for Irrigation Water Cooperatives which can operate community tube-wells and lift irrigation. Cooperative farming will be ideal for small and marginal farmers since the cooperative can provide centralized services like tractors and other farm equipment as well as threshing and drying machines, to support small scale decentralized production. This will bring down the cost of production and enhance the quality of produce and thereby of income. Instead of denying small farmers the many opportunities provided by cooperatives, the emphasis should be on the introduction of appropriate reforms to make cooperatives small farmer-friendly and efficient.

ii) **Group Farming by Self-help Groups** – So far, SHGs have been mainly organized for supporting micro-enterprises operated by women with the help of microcredit. With the growing diminution in the size of operational holdings, it will be useful to promote the SHGs at the production end of the farming enterprise by encouraging groups to lease farmland. This will be particularly helpful in the case of "Green Agriculture". The SHGs will, however, become sustainable only if they have backward linkages with technology and credit and forward linkages with processing and marketing organizations. Also microcredit banks operated by the SHGs should be helped to become Sustainable Livelihood Banks.

iii) **Small Holders' Estates** – The formation of Small Holders' Estates, for example in cotton, horticulture, medicinal plants, poultry and aquaculture will help promote group cooperation among farmers living in a village or watershed or the command area of an irrigation project. Improving productivity, reducing the cost of production and entering into marketing contracts with textile mills, food processing industries, pharmaceutical companies, and fish marketing agencies will be some of the advantages. Such Small Farmers' Estates can also manufacture products under brand names and enhance income security so that group insurance becomes feasible. Agri-clinics and Agribusiness Centres could be linked to such Estates.

iv) **Contract Farming** – Symbiotic contracts which confer benefits to both producers and purchasers, will be ideal for ensuring assured and remunerative marketing opportunities. At the moment, the Central and State Governments through organizations like Food Corporation of India (FCI), National Agricultural Cooperative Marketing Federation of India (NAFED, etc., ensure the operation of the MSP announced by the Government.

Contract cultivation based on a well-defined Code of Conduct will be helpful to small producers in getting good quality input, a fair price and prompt payment for their produce. A **Code of Conduct for Contract Farming** will have to be developed for major groups of farm commodities such as vegetables, fruits, flowers, medicinal plants, tuber crops, pulses, oilseeds, sugarcane, cereals and cotton. A farmer should not be alienated from his/her land under any circumstance. **Available evidence indicates that direct contract between the producer and purchaser with the government, as third party for intervention in the case of legal disputes is more advantageous to small farmers than indirect contract through intermediary agencies**. At the State level, a Monitoring Committee comprising farmers and appropriate officials may be setup to ensure the spread of a non-exploitative pattern of contract cultivation.

v) **Farmers' Companies** – Private Limited Companies, registered under the Companies (Amendment) Act, 2002, are now coming into existence in the area of seed production and the production of biofertilizers, biopesticides and other forms of biological software essential for sustainable agriculture. Small farmers and SHGs should be associated in such companies as stakeholders and not just as shareholders.

vi) **State Farms** – In the 1950s, there was considerable emphasis on the development of large State Farms on the model of the farms promoted by the former Soviet Union. Most such farms are now being used for purposes other than the production of food crops. The land available with State Farms could be made available to women SHGs for the production of say, hybrid and improved seeds of crop and fodder plants, vegetables, fruits and flowers. Also, State Farms could be used for developing **Living Heritage Gene Banks** of the germplasm of local breeds of cattle, sheep and poultry in order to preserve our animal genetic wealth.

1.11 Attracting Youth

Youth will be attracted to take to farming as a profession only if farming becomes economically rewarding and intellectually stimulating. This is where new technologies like biotechnology, information and communication technology, renewable energy technologies, space technology etc., can help. Educated youth should be helped through a form of Venture Capital Fund, low interest loans and allotment of wasteland for setting up agri-clinics and production-cum-processing centres to undertake outsourcing jobs both from within and outside the country, enabling India to emerge as a major agricultural outsourcing hub. Eco-agriculture is knowledge intensive and hence there is need to ensure that large numbers of educated young men and women take to farming and farm related enterprises as their vocation. This is an area where symbiotic partnerships between young entrepreneurs and the private sector will be beneficial.

1.12 Public Policies for Sustainable Livelihoods

1.12.1 The following policies will ensure **well-being and livelihood security of all included under the category of "farmers":**

i) A **National Land Use Advisory Service** should be immediately established and linked to State and Block Level Land Use Advisory Services on a hub and spokes model. These can be virtual organisations with the capacity to link land use decisions with ecological, meteorological and marketing factors on a location and season specific basis. They should provide proactive advice to farmers on land use. Land use decisions are also water use decisions and hence it is important that the proactive advice is based on both an estimate of likely water availability and the opportunities available for enhancing income per unit of water.

ii) The scope of the MSP programme should be expanded to cover all crops of importance to food and income security for small farmers. Arrangements should be made to ensure MSP at the right time and at the right place, particularly in the areas coming within the scope of the National Rainfed Area Authority. **Also, advice to farmers on crop diversification should be linked to the assurance of MSP. Small farm families should not be exposed to administrative and academic experiments and gambles in the market.**

iii) A Market **Price Stabilisation Fund** should be established jointly by Central and State Governments and financial institutions to protect farmers during periods of violent fluctuations in prices; as, for example, in the case of perishable commodities like onion, potato, tomato.

iv) An **Agriculture Risk Fund** should be setup to insulate farmers from risks arising from recurrent droughts and other weather aberrations.

v) The scope of Agricultural Insurance Policies should become wider and should also cover health insurance, as envisaged under the **Parivar Bima Policy**. Seed Companies should provide insurance in the case of GM crops.

vi) A **Food Guarantee Act** should be formulated and enacted. Farmers, who are also the largest consumer group, will produce more if there is greater consumption and consequently greater demand for farm produce and products. Such an Act that combines the principal features of Food for Work programmes and the National Employment Guarantee Programme would help make food serve the role of currency. Such a procedure will help improve household nutrition security as well as farmers' income.

vii) **A well-defined, pro-farmer and pro-resource poor consumer Food Security Policy is an urgent necessity.** Food security with home grown foodgrains can alone eradicate widespread rural poverty and malnutrition, since farming is the backbone of the livelihood security system in rural India. This will enable the **Government to remain at the commanding height of the national food security system**. Building a food security system and containing price rise with imported foodgrains may sometimes be a short term necessity, but will be a long term disaster to our farmers and farming.

viii) The time has come for the Government to setup a multi-stakeholder **National Food Security and Sovereignty Board** chaired by the Prime Minister with its membership including the Minister for Agriculture and Food and other concerned Ministers of GoI, the Deputy Chairman of the Planning Commission as well as a few Chief Ministers of food surplus and deficit States, leaders of all national political parties, a few experts including specialists in the gender dimension of agriculture and food security, and mass media representatives. We are confronted with the need to conserve prime farmland and to safeguard the food security requirements of both resource poor farmers and resource poor consumers. The bulk of such resource poor consumers are small or marginal farmers and landless agricultural labour in unirrigated areas. It is these linkages which need to be understood and attended to. The proposed National Food Security and Sovereignty Board can attend to these complex linkages in a holistic manner and provide policy guidelines for developing and implementing a socially and economically sustainable food security programme catering to the interests of all regions of the country and all sections of our population.

ix) Farm families should also be protected from becoming victims of HIV/AIDS and tuberculosis (TB). Anti-retroviral drugs should be made available in villages free of cost. Also the approach to the treatment of HIV/AIDS and TB in villages should be a food cum drug based one. Nutrition support to rural families affected by HIV/AIDS, TB, malaria and leprosy is needed to assist in recovery and restoration to a productive life. There is evidence to suggest that a pure drug based approach alone is not adequate to help economically underprivileged rural women and men recover from diseases involving prolonged treatment. The foodgrains allotted to such a programme can be distributed through the normal channels on the production of a Food Coupon issued by the appropriate government agencies. For example in the case of HIV/AIDS, the National AIDS Control Organisation (NACO) would be the appropriate agency for the issue of food coupon to children, women and men affected by this debilitating and killing disease. The Food-cum-Drug based approach to healthcare should become an integral part of the National Rural Health Mission.

x) There is need for a **Rural Non-Farm Livelihood Initiative** for rural areas. The initiative could have as its core a more market oriented and professionalised KVIC and a restructured and financially strengthened SFAC and bring all rural non-farm employment programmes together in order to generate convergence and synergy among them. The initiative should be integrated with on-farm employment generation through a pan-GoI programme to establish 'Rural Business Hubs' on the lines of China's Township and Village Enterprise (TVE) programme. A consortium approach involving the different agencies concerned is needed.

xi) An **Indian Trade Organisation** (ITO) should be established to help the Government to operate a Livelihood Security Box and link global policies with local action in a manner beneficial to farmers.

xii) Since agriculture is a State subject, every State Government should setup a **State Farmers' Commission** with an eminent farmer as Chairperson. The membership of the Commission should include all the principal stakeholders in the farming enterprise. Such Commissions

should submit an Annual Report to be placed before the respective State Legislature for discussion and decision.

xiii) Agricultural progress should be measured by the growth in the net income of farm families. Along with production growth rates, income growth rates should also be measured and published by the Economics and Statistics Directorate of the Union Ministry of Agriculture.

xiv) Article 243 G of the 11th Schedule of the Constitution (73rd Amendment) Act, 1992 entrusts Panchayats **with responsibility for agriculture including agricultural extension**. They will have to be empowered with the needed information, training and tools for discharging this responsibility. At the moment there are about 2,25,000 panchayats in the country. The problems facing Indian farmers are generally dealt with in an aggregated manner – i.e., taking into consideration the problems of over 100 million farming families as a whole which make them appear formidable. **However, if such problems are disaggregated and dealt with by Gram Sabhas and Panchayats, location-specific problems can be attended to speedily and effectively.** Therefore it is time that the provisions of Article 243 G are implemented, both in letter and spirit.

xv) There are nearly 1.2 million elected women members in panchayats throughout the country. They can play a pivotal role in improving the quality of life in villages and in areas like sanitation, drinking water, child care, early childhood education and nutrition security. They should be empowered to take up such leadership roles in rural transformation through appropriate training and capacity building opportunities. An earmarked **Gram Panchayat Mahila Fund** should be available to them for meeting gender-specific needs.

xvi) Mass media (conventional, electronic and the internet) constitute an important pillar of our democratic system of governance. Serious famines do not occur in countries with independent mass media, since they play the role of an early warning system. The green revolution of the 1960s would not have happened, but for the enthusiastic support of the media, particularly radio and language newspapers, which not only spread a message of hope, but also took the latest information on the new technologies to villages. This aroused enormous enthusiasm among farmers resulting in a small Government programme becoming a mass movement. There is need now for spreading messages of hope and information on the agricultural bright spots of the country. In order to assist the mass media with timely and scientifically accurate information on issues relating to agriculture, food security and farmers' welfare, it will be useful to establish a few **Regional Media Resource Centres**, in whose management farmers, media representatives and scientists including extension personnel should play an important part.

xvii) The Ministry and Departments of Agriculture both in the Centre and States may be restructured to become **Ministry / Department of Agriculture and Farmers' Welfare** in order to highlight their critical role in ensuring the income and work security of over 600 million members of India's population. The change of name should be accompanied by structural changes which permit the induction of active farm women and men in senior positions in Government for specific periods and specific tasks.

xviii) We urge the Central and State Governments to consider seriously the question of including Agriculture under the Concurrent List in Schedule VII, Article 246 of the Constitution. Important policy decisions like those relating to prices, credit and trade, are taken by the Government of India (GoI). Also, several pieces of legislation including the Protection of Plant Varieties and Farmers Rights Act, the Biodiversity Act, the Food Bill, etc., are administered by the GoI. GoI provides substantial funds for rural infrastructure development including irrigation, village roads and markets. By placing agriculture on the Concurrent List, serving farmers and saving farming becomes a joint responsibility of the Centre and States, i.e. a truly national endeavour in raising the morale, prestige and economic well being of our farm women and men.

1.13 Matching National Policy with Local Diversity

Indian agriculture is rich in diversity of soils, climate, farming systems, and resource endowments. Hence, a broad national policy will have to be tailored to suit different agro-climatic, socio-economic and socio-cultural factors. The framework for a **National Policy for Farmers** presented in this Report will have to be suitably adapted and elaborated to suit local realities in different parts of the country, particularly with reference to priorities in action points. State level policies can aim to convert national goals into local action. The State Farmers' Commissions could be entrusted with the task of preparing an operational plan for implementing the National Policy for Farmers on a location-specific basis.

1.14 Jai Kisan

Mahatma Gandhi preferred to be known as a farmer, while signing the Visitor's Book of the National Dairy Research Institute at Bangalore in 1927. Let us prove worthy of his trust that India will care for its farmers.

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PARTICIPANTS OF HIVOS-CSA WORKSHOP

Neju G A
C/o Jagrutha Mahila Sanghatan
Potnal Post-584123
Dist: Raichur
Karnataka
Ph. No. 08538 281016
Email: neju@rediffmail.com

S. Bhagyalakshmi
Watershed Support Services and Activities Network (WASSAN)
H No. 12-13-452, Street No.1
Tarnaka
Secunderabad – 500 017
Andhra Pradesh
Tel: 040-27015295/9627018581
Email: wassan@eth.net
Website: www.wassan.org

A.V. Balasubramanian
CIKS
No. 30, Gandhi Mandapam
Kotturpuram
Chennai 600 085
Ph. No. 044 24471087/44715862
Email: ciks@vsnl.com

Vinod Bhatt
Navdanya Trust
A-60 Hauz Khas
New Delhi-110016
Telephone: 011-26968077/ 26856795
Email: vinodbhat@rediffmail.com;
navdanya@sancharnet.in

Joshy V Cherian
IOFPCL
Thottumugham Post
Aluva 683 105
Ernakulam
Ph. No. 0484-2620659
Email: info@iofpcl.com

Alexander Daniel
Institute for Integrated Rural Development (IIRD)
Kanchan Nagar, Nakshatrawadi
Post Box no.562
Aurangabad 431 002, Maharashtra
Tel: 0240-2376336, 2376828
Fax: 0240 – 2376866
Mobile: 9372076828
Email: iirdind_agd@sancharnet.in

Dharmaraju
OXFAM GB
Plot No. 18, Amaravati Cooperative Housing Society
Near Kausalya Estates
Kharkhana
Secundrabad 500009
Ph. No. 040-27741891, 2774122, 5522615
Email: KDharmaraju@Oxfam.org.uk

Willy Douma
Policy Officer
Sustainable and Economic Development
Hivos
Raamweg 16
2596 HL Den Haag
Phone: +31 – 70 – 376 55 00
Fax: + 31 – 70 – 362 46 00
Email: w.douma@hivos.nl
Website: www.hivos.nl

Reena Fernandes
Deputy Director
Hivos India Regional Office

Dhan Foundation
18, Pilliyar Koil Street
S.S. Colony
Madhurai 625 016
Ph. No. 0452 2610794/2610805
Fax. No. 0452 2602247
E mail: dhan@md3.vsnl.net.in

V. Gandhimathi
No. 333/5, 23rd Main, 5th Phase
J P Nagar
Bangalore – 560 078
Ph. No. 26490310/04175 242380
Email: v_gandhimathi@vsnl.net

D. K. Garg
National Centre for Integrated Pest Management
Lal Bahadur Shastri Bhavan
IARI Campus
Pusa
New Delhi 110 012
Ph. No. 011 25765472
Email: ipmnet@bol.net.in

Bishwadeep Ghose
Programme Officer
Hivos India Regional Office
Bangalore

Durga Jha
Karbala Para, Behind State Bank of Indore
G.E. Road, Raipur, (CG), 492001
Tel: 0-98933-57911 or 0-98266-44970
Email: durga_jha2004@yahoo.com

Mathew John
Keystone Foundation
Groves Hill Road
Post Box 35
Kotagiri 643 217
The Nilgiris, Tamil Nadu
Ph. No. 91 4266 272277
Fax. No. 91 4266 272977
Email: mathew@keystone-foundation.org;
kf@keystone-foundation.org;
sneh@keystone-foundation.org
Website: www.keystone-foundation.org

Shyam Kansal
C/o. Kansal Food Products Ltd.,
Bargarh 768 028
Orissa
Ph. No. 06646 230671/222206
Email: niraj_kansal@yahoo.com;
niraj_kansal@yahoo.co.in

Jan Willem Ketelaar
FAO Inter-Country Programme for IPM in Vegetables in South and Southeast Asia
(FNPP/GLO/002/NET & GCP/RAS/191/AUL)
FAO Regional Office for Asia and the Pacific
Room A.25
Maliwan Mansion, 39 Phra Arthit Road
Bangkok 10200
Thailand
Ph. No. (66-2) 697-4000 # 4274/ (66-2) 697-4274 (direct)
Mobile Phone :(66 1) 803 5500
Fax: (66-2) 697-4422
Email: johannes.ketelaar@fao.org;
jwkipm@attglobal.net

Padma Kumar
Associate Professor
Regional Agricultural Research Station
Kottayam 690 523
Kerala
Ph. No. 0481 2524421
E mail: padman@sancharnet.in

Prabhat Kumar
ASE/SERD; Asian Institute of Technology
PO Box - 4
Klong Lunag
Pathumthani 12120
THAILAND
Email: pkipm@ait.ac.th

Ananda Leetan
Greenpeace International
Amsterdam
The Netherlands

T. Muralidharan
Programme Officer
Hivos India Regional Office

Jacob Nellithanam
Richharia Campaign
B-3(0rI-4), Parijat colony,
Nehru Nagar, Bilaspur-495001
Chattisgarh.
Email: jack_nel@rediffmail.com

Noviansyah
Programme Officer
Sustainable Economic Development for
Regional Hivos Southeast Asia
Hivos - Southeast Asia Regional Office
Jl. Brawijaya Raya No. 12A
Jakarta Selatan 12160 - Indonesia
Ph. No. +62-21-724 4432, 722 7216
Fax. No. +62-21- 723 0774
E mail: n.manap@hivos.or.id

Utsa Patnaik
Professor
Centre for Economic Studies and Planning
Social Sciences
Room. No. 313 SSS II
Jawaharlal Nehru University
New Mehrauli Road
New Delhi 110 067
Ph. No. 011 26704447
Resi. Ph. No. 011 26163541
Email: ppat@vsnl.com;
upatnaik@mail.jnu.ac.in
Website: http://www.jnu.ac.in

R. Ponnambalam
Director of Women Concern-FEDCOT
22, Pavalar Nagar, Beach Road
Nagercoil - 629 002.
Ph. No. 04652-221235
Mobile No.94434-82599
E-mail: fedcotwomen@yahoo.com

Jagadish Pradhan
Sahabhagi Vikash Abhiyan (SVA)
5 – Duplex, Sailashree Vihar
Bhubaneshwar – 751 021, Orissa
Telephone:0674-2740474/2744008
Email: jagdishpradhan@hotmail.com
Or svabbsr@hotmail.com

Oswald Quintal
Kudumbam - Leisa Network
No.22, Highways Colony
Subramaniyapuram
Trichy - 620 020, Tamil Nadu
Tel: 0431-2331879
Fax:0431 - 2332175
Email: kudumbamtry@eth.net

Divya Raghunandan
Greenpeace
No. 3360, 13th B Main
HAL IInd Stage
Bangalore 560 038
Ph. No. 51154861/ 98455 35406
Fax. No. 51154862
Email: draghuna@dialb.greenpeace.org

Shobha Raghuram
Director
Hivos India Regional Office

Ramanjaneyulu
Centre for Sustainable Agriculture (CSA)
12-13-445, Street No.1
Tarnaka
Secundrabad 500030
Ph. No. 040 27017735
Fax. No. 040 27005342
Email. csa@csa-india.org
Website. www.csa-india.org

Vanaja Ramprasad
Director
Green Foundation
570/1, "Padmashri Nilaya"
III Main, IVth Cross
N S Palya, BTM IInd Stage
Bangalore 560 076
Karnataka
Ph. No. 26784509
Email: earthbuddy@rediffmail.com

Prasen Raptan
Programmes Manager
Janakalyan, A Society for Integrated Rural Development
Rehabilitation Colony No 4,
Tq Sindhanur
Raichur 584143
Ph. No 08535 - 264488
Email: jankalyana@sancharnet.in

Ratnakar
Bhartiya Samruddhi Finance Ltd. (BASIX)
501-502, Nirmal Towers
Dwarakapuri Colony, Punjagutta
Hyderabad – 500082, A.P
Tel: 040 – 26618846
Email:
basix@hd1.vsnl.net.in;vijayamahajan@basixindia.com

C. Ravikumar
SAMUHA
No.1583, 17th Main
J P Nagar II Phase
Bangalore 560 078
Email: ritu@samuha.org

Rama Reddy
SAHAVIKASA: CDF
Post Box 340
Hyderabad 500001, A.P.
Tel : 040-2475 0327
Fax: 2476 1434
Email: rama.reddy@sahavikasa.coop;
hyderabad@sahavikasa.coop

M.V. Sastry
CWS, H.No.12-13-438
Street No.1, Tarnaka
Secunderabad – 500017, A.P
Tel: 040-27018257, 27007906, 27014300
Fax: 040 27005243
Email: hyd1_cws@sancharnet.in

Trilochan Sastry
Chief Executive Officer
Sahakara Mitra Samstha (SMS)
C/o Indian Institute of Management
Bannerghatta Road
Bangalore 56007
Ph. No. 26993285
Fax. No. 26584050
E mail. trilochans@IIMB.ERNET.IN

Anke Schuermann
German Agro Action (GAA)
Sanghamitra Urban Office
612, 1st C Main
Domlur Layout
Bangalore 560 071
Ph. No. 25356831
Email: ankedw@vsnl.net

Mathew Sebastian
Executive Director
INDOCERT
[Indian Organic Certification Agency]
Thottumugham P.O.
Alwaye - 5
Ernakulam Dt.
Kerala-India
Phone/ Fax: 0484-2630908, 2630909,
2630910, 2620943
E-mail: info@indocert.org

Sresta Natural Bioproducts Pvt. Ltd.
203, Pavani Annexe
Road No. 2, Banjara Hills
Hyderabad 500034, India
Ph. No. 040 23543766
Fax.No. 040 23543767
Email: rajseelam@sresta.com

T. Sudhakar
Regional In-charge
Agricultural and Processed Food
Products Export Development Authority
8th Floor, Chandra Vihar Building, M.J.Road,
Hyderabad-500001
Telephone:+91-40-24745940
Fax: 91-40-24745947
E-mail: hyd_apedahyd@sancharnet.in

Sugatha
Jaiva
8 Bowring Hospital Road (opp Samad House)
Bangalore-560 001
Ph. No. 23336107
Mobile: 9448470353
Email: jaivablr@yahoo.co.in; info@jaiva.org
Website: www.jaiva.org

Padmini Swaminathan
Director
Madras Institute of Development Studies
79, 2nd Main Road
Gandhi Nagar, Adyar
Chennai 600 020
Ph. No. 044 4412295/4419771
Fax. No. 044 4910872
E mail: padminis@mids.ac.in;
director@mids.ac.in

K.S. Krishnaswamy
C-601, Adarsh Gardens
47th Cross
Jayanagar 8th Block
Bangalore 560 011
Ph. No. 26990407
Email: drkswamy@vsnl.com

Venkatesh Tagat
General Manager
NABARD
RTC Cross Road
Hyderabad 500 020
Ph. No. 040 27644729
E- mail: hyd2_nabhyd@sancharnet.in

S. Usha
Thanal
L-14 Jawahar Nagar
Kowdiar
Thiruvananthapuram - 695 003
Kerala
Ph. No. 0471 2727150
Email: thanal@vsnl.com
Website: www.thanal.org

Nivedita Varshneya
Director, Natural Resource Management
SNS Foundation
88-89, IDC,
Mehrauli Gurgaon Road
Gurgaon- 122001
Telefax: 0124-2333851, 2333129, 2307258
Mobile: 9891437147
Email: nivedita@snsf.org
Website: www.snsf.org

Julietta Venkatesh
Senior Secretary
Hivos India Regional Office

B. Vijayalakshmi
AME Foundation, Trichy
661, EVR Road
K.K. Nagar (PO)
Trichy 620 004
Tamil Nadu
Ph. No. 0431 2458726
Fax. No. 0431 2450725
E mail: try_ametry@sancharnet.in;
amefrai@amefound.org

PROGRAMME SCHEDULE

Tuesday 5th July, 2005

06.30 pm.	**Registration at Hotel**
07.30 p.m.	**Informal Introduction by Participants**
08.00 p.m.	**Dinner at Quality Inn**

Wednesday 6th July, 2005

SESSION I

09.00 a.m. – 09.30 a.m.	**Registration** *Staff of Centre for Sustainable Agriculture (CSA)*
09.30 a.m. – 09.45 a.m.	**Introduction and Welcome** *G. V. Ramanjaneyulu, Centre for Sustainable Agriculture, Hyderabad* *M.V. Sastri, Centre for World Solidarity, Hyderabad* *Shobha Raghuram, Hivos India Regional Office, Bangalore*
09.45 a.m. – 10.00 a.m.	**Overview – Rice Chain in the Context of the Hivos Sustainable Economic Development Policy** *Willy Douma, Hivos Head Office, The Netherlands* **Workshop Outline** *Bishwadeep Ghose, Hivos India Regional Office*
10.00 a.m. – 11.00 a.m.	**Key Note Address** **Theorising Food Security and Poverty in the Era of Economic Reforms** **Sustainable Development, GMOs/ WTO/ International Lobby** *Utsa Patnaik, Centre for Economic Studies and Planning, Jawaharlal Nehru University, New Delhi* **Observations and Remarks** *Chair: K.S. Krishnaswamy, Former Dy Governor, RBI, Bangalore*
11.00 a.m. – 11.15 a.m.	**TEA BREAK**

SESSION II

Diversity of Paddy Production Systems: Experiences and Issues

(15 mins per presentation)

11.15 a.m. – 11.30 a.m.	**Seeds and the Issues in the Proposed Seeds Bill** *Vanaja Ramprasad, Green Foundation, Bangalore*
11.30 a.m. – 11.45 a.m.	**Aqua Integration with Paddy Farming** *Padma Kumar, Regional Agriculture Research Station, Kumarakom*
11.45 a.m. – 12.00 a.m.	**An Alternative Production System that Conserves Water (SRI)** *G. V. Ramanjaneyulu, CSA, Hyderabad*
12.00 a.m. – 12.15 a.m.	**Organic Paddy: The Challenges of Extension and Scaling Up** *A. V. Balasubramanian, CIKS, Chennai*
12.15 a.m. – 12.30 a.m.	**Intellectual Property Rights (IPR) Issues in Rice** *Jacob Nellithanam, Chattisgarh*
12.30 a.m. – 01.15 p.m.	**Discussion and Concluding Remarks** *Chair: M. V. Shastri, CWS, Hyderabad* *Alexander Daniel, IIRD, Aurangabad*
01.15 p.m. – 02.15 p.m.	**LUNCH BREAK**

SESSION III

Policy and Public Support for Organic Paddy Cultivation

(15 mins per presentation)

02.15 p.m. – 02.30 a.m.	**Integrated Pest Management (IPM) in Rice: Socio-Economic Impact** *D. K. Garg, NCIPM, New Delhi*
02.30 p.m. – 02.45 p.m.	**Genetically Modified (GM) Rice** *Divya Raghunandan, Green Peace, Bangalore*

02.45 p.m. – 03.00 p.m.	**Export and Certification Subsidies for Organic Agriculture** *T. Sudhakar, APEDA/NPOP, Hyderabad*
03.00 p.m. – 03.15 p.m.	**Credit Policies for (Organic) Agriculture** *Venkatesh Tagat, NABARD, Hyderabad*
03.15 p.m. – 03.30 p.m.	**Access to Credit – Role of MFIs** *Ratnakar, BASIX, Hyderabad*
03.30 p.m. – 03.45 p.m.	**National Policy on OA** *P. Bhattacharya, NCOF, Gurgaon**
03.30 p.m. – 04.00 p.m.	**Gender Roles and Issues in Rice-Implications for Policy** *V. Gandhimathi, Bangalore*
04.00 p.m. – 05.00 p.m.	**Discussion and Concluding Remarks** *Chair: Rama Reddy, CDF, Hyderabad* *A.V. Balasubramanian, CIKS, Chennai*
07.00 p.m.	**Core Committee Meeting** *Hivos, Navdanya, CIKS, MIDS, Thanal, CSA, CWS, IIRD, SVA*
8.00 p.m.	**DINNER**

Thursday 7th July, 2005

SESSION I

Marketing, Processing and Value Addition of Rice

(15 mins per presentation)

09.00 a.m. – 09.15 a.m.	**Local Markets and Marketing** *S. Usha, Thanal, Trivandrum*
09.15 a.m. – 09.30 a.m.	**Fair Trade and Exports-Possibilities and Challenges** *Vinod Bhatt, Navdanya, New Delhi*

09.30 a.m. – 09.45 a.m.	**Experiences in Shortening the Chain-Cooperatives** *K. Hanumantha Reddy, Hyderabad*
09.45 a.m. – 10.00 a.m.	**Producer Company-Community Ownership** *Joshy Cherian, IOFPCL, Aluva*
10.00 a.m – 10.15 a.m.	**Paddy Procurement and Processing – Scope and Challenges** *Shyam Kansal, Navdanya Food Products, Bargarh*
10.15 a.m. – 11.00 a.m.	**Discussion and Concluding Remarks** *Chair: Dharmaraju, Oxfam, Hyderabad* *Jagadish Pradahan, SVA, Bhubaneswar*

SESSION II

Standards Certification and ICS

(15 mins per presentation)

11.00 a.m. – 11.15 a.m.	**Fair Trade in Rice: Implications for the Producer & Consumer** *Arun Raste, IRFT, Mumbai*
11.15 a.m. – 11.30 a.m.	**Certification including Group Certification** *Mathew Sebastian, INDOCERT, Aluva*
11.30 a.m. – 11.45 a.m.	**Alternative Standards and Certification** *Alexander Daniel, IIRD, Aurangabad*
11.45 a.m. – 12.00 a.m.	**Participatory Guarantee Systems** *Mathew John, Keystone Foundation, Nilgiris*
12.00 a.m. – 12.15 a.m.	**Linking Organic Producers with the Consumer Movement** *S. Ponnambalam, FEDCOT, Tagarcoil*
12.15 a.m. – 01.15 p.m.	**Discussion and Concluding Remarks** *Chair: Trilochan Sastry,Sahakaramitra, Hyderabad* *Oswald Quintal, Kudumbam, Trichy*
01.15 p.m. – 02.00 p.m.	**LUNCH BREAK**

SESSION III

02.00 p.m. – 03.00 p.m.	**Working Group Session on the Three Themes**
03.00 p.m. – 04.00 p.m.	**Presentations of Working Group Sessions on the Three Themes**
04.00 p.m. – 04.30 p.m.	**Discussions**
04.30 p.m. – 05.00 p.m.	**Plenary –Directions for the Future** *Navdanya, CIKS, MIDS, Thanal, CSA, CWS, IIRD, SVA* *Chair: Padmini Swaminathan, MIDS, Chennai*
05.00 p.m. – 05.45 p.m.	**Concluding Remarks** *Shobha Raghuram, Hivos, Bangalore, Others*
05.45 p.m. – 06.00 p.m.	**Vote of Thanks** *Hivos, CSA*

** Not Confirmed.*

Photo Credit:

Theme: Putting seedlings with mud and seed to transplant.

Courtesy: Staff of CSA in Tamil Nadu Agriculture University.

Photo Credit:
Theme: Raised Nursery Beds.
Courtesy: Staff of CSA in Tamil Nadu Agriculture University.

PUBLICATIONS
Hivos India Regional Office*

1. Technical Report Series 1.1, **AIDS Impact and Intervention,** 1992.
   Editors: Rajendran Nathan, Joy D' Souza, Shobha Raghuram.

2. Technical Report Series 1.2, **Development Policies Issues and Challenges for the 90's,** 1992.
   Editor: Shobha Raghuram.

3. Technical Report Series 1.3, **Future of Co-operatives in India,** 1993.
   Editor: Reena Fernandes.

4. Technical Report Series 1.4, **Rethinking Population,** 1995.
   Editors: Shobha Raghuram and Anika Rahman.
   Jointly organised by Hivos Regional Office South Asia, Bangalore Co-ordination Unit Bangalore and the Centre for Reproductive Law and Policy, New York, 1995.

5. Technical Report Series 1.5, **Voluntary Organisations and Good Governance: Formation, Resource Mobilisation, Accounting and Management,** 1997.
   Editor: Sangeetha.

6. Technical Report Series 1.6, **Recasting HIV/AIDS as a Development Issue: Of Rights and Resistance,** 1997.
   Editors: Shobha Raghuram and Rajendran Nathan.

7. Technical Report Series 1.7, **Livelihood Strategies of the Rural Poor and the Environment Challenges Ahead,** 1998.
   Editor: Jamuna Ramakrishna.
   A Joint Initiative of Hivos and AME.

8. Technical Report Series 1.8, **Health and Equity-Effecting Change.** 2000.
   Editor: Shobha Raghuram.
   The electronic version of the Monograph is available on the CD.

9. Technical Report Series 1.9, **Economic Interventions in Development,** 2003.
   Editors: T. Muralidharan, Shobha Raghuram.
   The electronic version of the Series is available on the CD.

10. Technical Report Series 2.1, **The Paddy Chain: Building Constructive Alternatives**, 2006.
Editors: G V Ramanjaneyulu, Bishwadeep Ghose, Willy Douma, Shobha Raghuram.
The electronic version of the Series is available on the CD.

There are still some copies available of publications printed before 1995, though these might on facts be outdated:

MONOGRAPHS

1. **Management and Accounting Systems in the Voluntary Sector,** 1992.
   Editor: N. Sangeetha.
   Reference Manual.

2. **Women in India: Reflecting on our History and Shaping our Future,** 1993.
   Editor: Jamuna Ramakrishna.
   Hivos Monograph (IInd Edition).

3. **Savings and Credit Systems of the Poor Some Non-Governmental Organisation (NGO) Experiences,** 1994.
   Editor: D. Rajasekhar.
   Hivos & Novib Monograph.

4. **Poverty and Deprivation: Some Interstate Comparisons,** 1996.
   Editors: Leela Gulati, R. Ramalingam.
   Hivos Monograph.

5. **Local Development in a Globalising World,** 1996.
   J. Mohan Rao.
   Hivos Monograph.

6. **Poverty and Deprivation: Profiles of Bihar and Madhya Pradesh,** 1998.
   Leela Gulati, R. Ramalingam.
   Hivos Monograph.

7. **Eradication of Poverty: South Asia's Call for Joint Responsibilities,** 2000.
   Hivos Monograph.

8. **The Necessity for Compulsory School Education in Social Development: An Overview,** 2003.
   Manashi Ray, Shobha Raghuram.
   Hivos Monograph.
   The electronic version of the Monograph is available on the CD.

9. **Understanding Persistent Poverty in India,** January, 2004.
   Jeyaranjan. J, Padmini Swaminathan.
   Hivos Monograph.
   The electronic version of the Monograph is available on the CD.

10. **The Challenge of Democratic Empowerment,** July 2004.
Sitharamam Kakarala.
Hivos Monograph.
The electronic version of the Monograph is available on the CD.

11. **Adivasis of India and Development Strategies,** 2004.
Lawrence Surendra, Kikkeri Narayan, Ritambhara Hebbar.
Hivos Monograph.
The electronic version of the Monograph is available on the CD.

12. **Globalisation and People's Development Choices,** 2004.
Sumi Krishna.
Hivos Monograph.
The electronic version of the Monograph is available on the CD.

The publications are available on request based on the inventory status.

BOOKS

1. **Structural Adjustment: Economy, Environment and Social Security,** 1995.
Editors: Shobha Raghuram, Heiko Sievers and Vinod Vyasulu.
Macmillan Publications, New Delhi.

2. **Rethinking Development,** 1996.
Editor: Shobha Raghuram, In Memory of S Kappen.
Visthar, Bangalore.

3. **Rules, Laws, Constitutions,** 1998.
Editors: Satish Saberwal, Heiko Sievers.
Sage Publications, New Delhi.

HIVOS INDIA STUDIES

1. **Summary Note of Discussion with Partners on Perceptions from the Field in the Political and Social Context,** 1999.

2. **Summary Note of Discussion with Partners and Non-Partners on Economic Policy and Credit,** 1999.

3. **Social Role and Impact of Cinema: Opportunities, Challenges, and Limitations in the Present Context,** 2000.

4. Shashi Rajagopalan, **In-House Study on the Economic Portfolio of the Hivos Regional Office Bangalore,** Position Paper 1, Hivos Regional Office, Bangalore, October-December 2000.

5. Nandita Haksar, **In-House Study of the Human Rights Portfolio and the Rights Approach of the Hivos Regional Office, Bangalore,** India, Position Paper II, November, 2001.

6. R.K. Srivastava, Ashok Raj, Rakesh Kapoor, Abhay Sinha, **A Revisit in India's Voluntary Sector A Study of its Typology, Size, Funding and Role in the Post-Liberalisation Period,** Position Paper IV, October, 2001.

7. Shyam Sunder Das, **Mapping of Civil Society Organisations in Western Orissa,** December, 2003.

8. Shobhita Rajagopal, **Rajasthan: Regional Patterns in Development and Status of Civil Society Organisations,** June, 2004.

9. Shashi Rajagopalan, **Discussion Paper on Hivos Phase-out Policies and Experiences,** 2004-2005.

10. Ramesh Sharan. Bishaka Bhanja, **Mapping of Civil Society Organisations in Jharkhand,** December, 2004.

11. B.K. Anitha, G.Sriramappa, **Regional Disparities in Development and Status of Civil Society Organizations, Study of North Karnataka Region - A Report,** March, 2005.

12. Rakesh Kapoor, **An Inventory of Prospective Donors for Collaborative Support to the NGO Sector in India,** August 2006.

HIVOS INDIA WORKSHOP REPORTS

1. Bhargavi Nagaraja, **Health and Equity-Effecting Change**, 2000.

2. Conference Proceedings, **Civil Society, European – Asian Partnership, III UN LDC Conference**, organized by Hivos and Eurostep, Brussels, 15th May, 2001.

3. Report, **The Social Role and Impact of Theatre: Opportunities, Challenges, Sustainability in the Present Context of Globalisation**, 29th January, 2003.

4. Report, **Context and Dynamics of Civil Society in the 21st Century**, Workshop in collaboration with Hivos, ICCO, Novib & Cordaid organized by Centre for Women's Development Studies (CWDS), 20th – 21st February, 2003, New Delhi.

5. Report, **Hivos India Partner Consultation on Results Assessment**, 3rd -5th February, 2004.

6. Report, **Sex Selection in India: Issues and Approaches**, 17th – 18th November, 2005.

7. Report, **Managing HIV/AIDS in the Workplace**, 22nd November, 2005.

8. Report, **HIV/AIDS, LGBT: A Rights Discourse, A Rights-Based Struggle**, Hivos India Round Table, 31st May, 2006.

HIVOS INDIA WORKSHOP INFO PACKS

1. **The Social Role and Impact of Cinema: Opportunities, Challenges and Limitations in the Present Context,** 29th–30th May, 2000.
   Info pack for a workshop by Hivos India Regional Office, Bangalore.

2. **Health and Equity-Effecting Change,** 2nd–3rd August, 2000.
   Workshop by FRCH-IIMB- Hivos India Regional Office, Bangalore.

3. **Eradication of Poverty and Quality of Aid,** September 27th–29th, 2000.
   Background papers for the Eurostep South Asia Consultation.

4. **Eradication of Poverty and Quality of Aid,** September 27th–29th, 2000.
   Reference materials for the Eurostep South Asia Consultation.

5. **Economic Interventions in Development,** 25th–26th November, 2002.
   Info Pack for a workshop by Hivos India Regional Office, Bangalore.

6. **Economic Interventions in Development,** 25th–26th November, 2002.
   Case Studies for a workshop by Hivos India Regional Office, Bangalore.

7. **The Social Role and Impact of Theatre: Opportunities, Challenges, Sustainability in the Present Context of Globalisation,** 29th January, 2003.
   Info Pack for in-house consultation by Hivos India Regional Office, Bangalore.

8. **Contexts and Dynamics of Civil Society in the 21st Century,** 20th–21st February, 2003.
   Reference materials for a workshop in collaboration with Hivos, ICCO, Novib & Cordaid organized by Centre for Women's Development Studies (CWDS), New Delhi.

9. Info Pack of Materials on **Human Rights, Development Aid for the publication on "The Challenge of Democratic Empowerment",** Sitharamam Kakarala. A Hivos Monograph, July 2004. The electronic version of the Monograph is available on the CD.

10. **Sex Selection in India: Issues and Approaches,** 17th–18th February, 2005.
    Reference materials in two volumes for roundtable by Hivos India Regional Office, Bangalore.

11. **The Paddy Chain: The Building of Constructive Alternatives,** July 6th–7th, 2005.
    Info pack of materials for the workshop jointly organized by Centre for Sustainable

Agriculture (CSA), Hyderabad and Centre for World Solidarity (CWS), Hyderabad and Hivos India Regional Office, Bangalore.

12. **Managing HIV/AIDS in the Work Place,** November 22nd, 2005.
Info pack of materials for the workshop on hosted by the Hivos India Regional Office, Bangalore.

* All the reports are for internal circulation, and are available on request based on the inventory status.

HIVOS INDIA ANNUAL REPORTS

Hivos India Regional Office Annual Reports for years 1992 through 2005.
The reports are for internal circulation, and are available on request based on the inventory status.

Humanist Institute for Cooperation with
Developing Countries (Hivos)
Hivos India Regional Office
Flat No. 402, Eden Park
No. 20, Vittal Mallya Road
Bangalore 560 001, India
Ph. No. 00 91 80 22210514 / 41121002 / 22244966
Fax. No. 00 91 80 22270367
Website: www.hivos.nl

For Hivos Publications and Documentation,
Contact: Ms. Hemalatha
hemalatha@hivos-india.org
For General Information
Contact: Ms. Julietta Venkatesh
hivos@hivos-india.org

HIVOS POLICY PAPERS

1. **Tribal Belt Strategy,** November 1988.
2. **Hivos in Asia: Beyond Traditional NGOs,** June 1992.
3. **Hivos and Population – A Survey.**
4. **The Hivos/Triodos Bank, North-South Plan Micro Credit for Sustainable Development,** May 1995.
5. **Gender Women and Development,** October 1996.
6. **Greater Equality of Opportunity on the Markets,** December 1996.
7. **Hivos in Asia Policy Framework 1999-2002,** May 1998.
8. **Hivos and Support for Gay/Lesbian Emancipation in the South: Memorandum on the Implementation of the Policy Document "Human Rights",** February 1999.
9. **Environment: Gaining a Foothold Hivos and Sustainable Development,** May 1999.
10. **Access for all: Equal Opportunities in Cyberspace (Hivos and ICT Policy and Action Programme 2000-2004),** February 2000.
11. **Hivos Seed Capital Package for Financial Institutions,** February 2001.
12. **Civil Voices on a Global Stage,** Hivos Policy Paper, 2002.
13. **Hivos and Human Rights,** December 2002.
14. **Arts and Culture: Towards Cultural Diversity and Pluralism,** December 2002.
15. **Sustainable Economic Development,** January 2004.

THE HIVOS INDIA REGIONAL OFFICE

Hivos (Humanist Institute for Cooperation with Developing Countries, The Netherlands) is a secular humanist development institution which stands for emancipation, democratisation and poverty eradication in developing countries. It was established in 1968 by representatives of the Humanist movement in the Netherlands. Hivos is inspired by the humanist, and secular outlook. Hivos co-operates with Non-Governmental Organisations (NGOs) which work on the basis of participation and self-reliance of the poor, aim at structural social change in a non-dogmatic way, and can translate such objectives into a coherent development programme.

Hivos' involvement with programme partners in India started in 1979. Hivos Head Office with support from local consultants managed the programmes. In March 1991, the first Regional Office was established in Bangalore in an effort to bring Hivos 'closer to the field'. Today Hivos supports about 96 organisations and 129 projects. Hivos' programmes are concentrated in the three southern states of Karnataka, Andhra Pradesh, and Tamil Nadu and in the tribal belt which stretches from Gujarat and Rajasthan in the West, across Maharashtra and Madhya Pradesh in the centre, to Orissa and Jharkhand in the east of the sub-continent. There is added focus on North Karnataka, Rajasthan, Western Orissa and Jharkhand, broadly coming under the 'Regional Concentration Programme'. While a large number of programmes are located in rural areas a limited number of partner organisations with a regional or national focus are located in the major urban centres of Bangalore, Chennai, Hyderabad, Mumbai and Delhi. The work of the Regional Office includes a range of financial and non-financial services for the NGO sector, enhancing its monitoring capacity (more systematic and planned interventions); streamlining the programme in the tribal belt; identifying a number of partners who come into the policy spearheads of Financial Services and Enterprise Development (FSED), Sustainable Production (SP), HIV/AIDS (HA), Human Rights (HR), Arts and Culture (A&C), Gender, Women and Development (GWD), Information, Media and Knowledge Sharing (IMK). In the sectors of economy and culture separate funds have been set up vis-à-vis the Hivos Triodos Fund and the Hivos Culture Fund.

Apart from its various primary functions listed above the Regional Office has stimulated discussions on a number of policy issues by means of seminars, smaller consultations and prepared publications. Workshops have been organised on HIV/AIDS as a human rights issue, accounting systems, co-operatives, women in development, reproductive health, development policies in the '90's, and the impact of structural adjustment policies on the poor, eradication of poverty and quality of aid, health and equity, environment and livelihood support systems, the tribal belt strategy, IMK and Arts and Culture. The workshops are often collaborative processes done with national organisations and NGOs. The publications listed inside come under the Hivos Technical Report Series. They consist of Workshop reports, monographs and reference documents. Most of them have a wide circulation in India and abroad.

Hivos has reaffirmed its choice for concentrating on two main population groups in India: the dalit population and the indigenous (tribal) people. The emancipation of minorities and of women is perceived not in isolation but well-grounded in ongoing poverty eradication and sustainable development and efforts. Hivos partners are also working towards creating a receptive environment within the country by reinforcing secularism, pluralism, and democracy. Hivos as an institution believes in integrating policy focus with quality programme development, placing high on its list issues of accountability, long-term goals of social equity and sustainability.

As one of the six Dutch Co-Financing agencies, Hivos derives a large part of its funds from the Co-Financing budget line of the Dutch Ministry for Development Co-operation. Hivos' total expenditures for 2005 in India amounted to 8.1 million Euros. These are inclusive of CFP, EU and other additional funds.

Source:
Hivos India Annual Report 2005

HIVOS

Regional Office
Flat No. 402, Eden Park
No. 20, Vittal Mallya Road
Bangalore 560 001
Ph. No. 91 80 22210514/41121002/22244966
Fax. No. 91 80 22270367
E mail: hivos@hivos-india.org